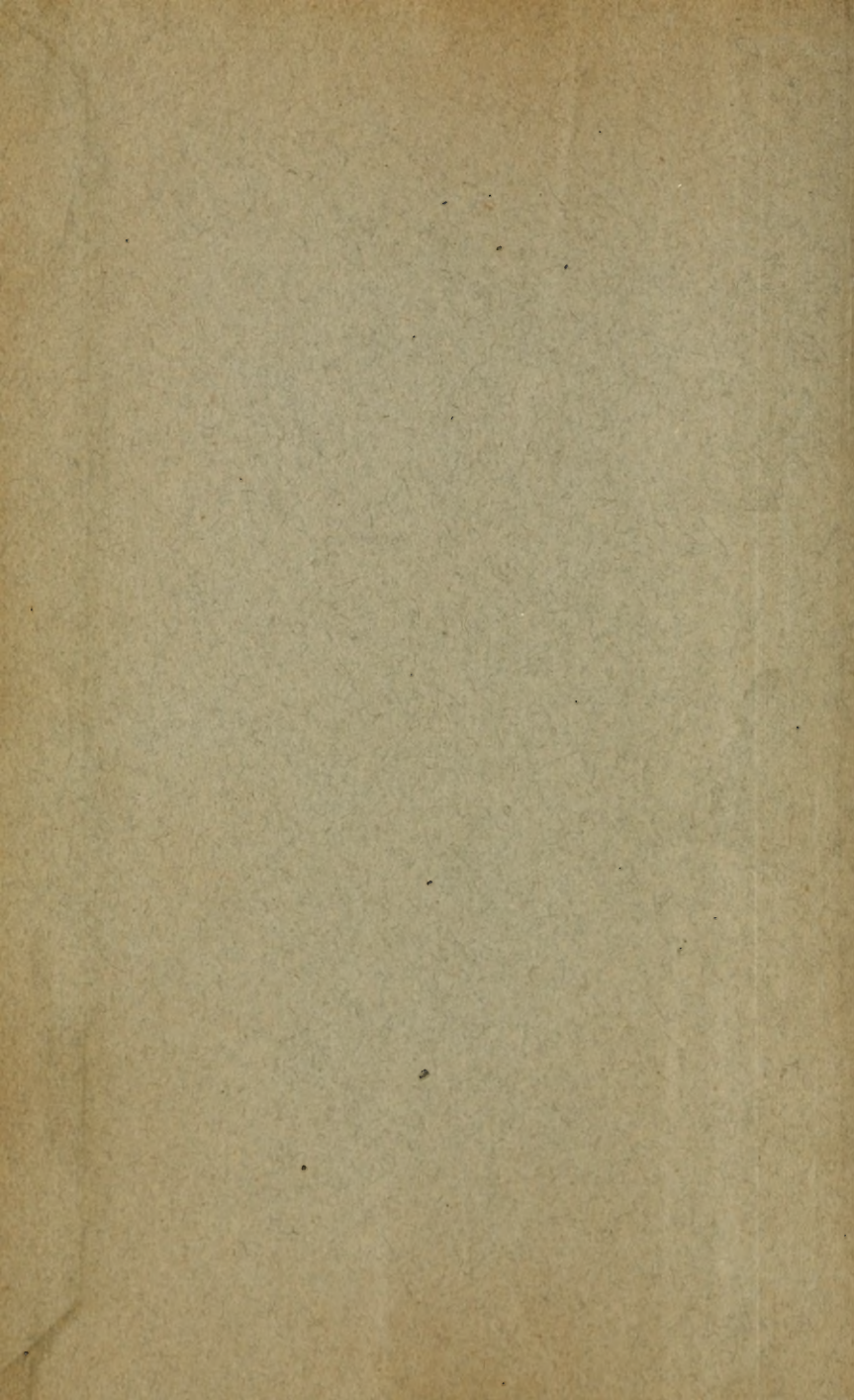


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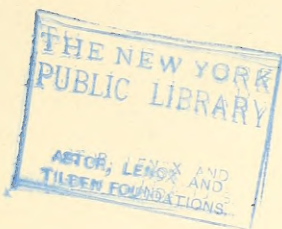


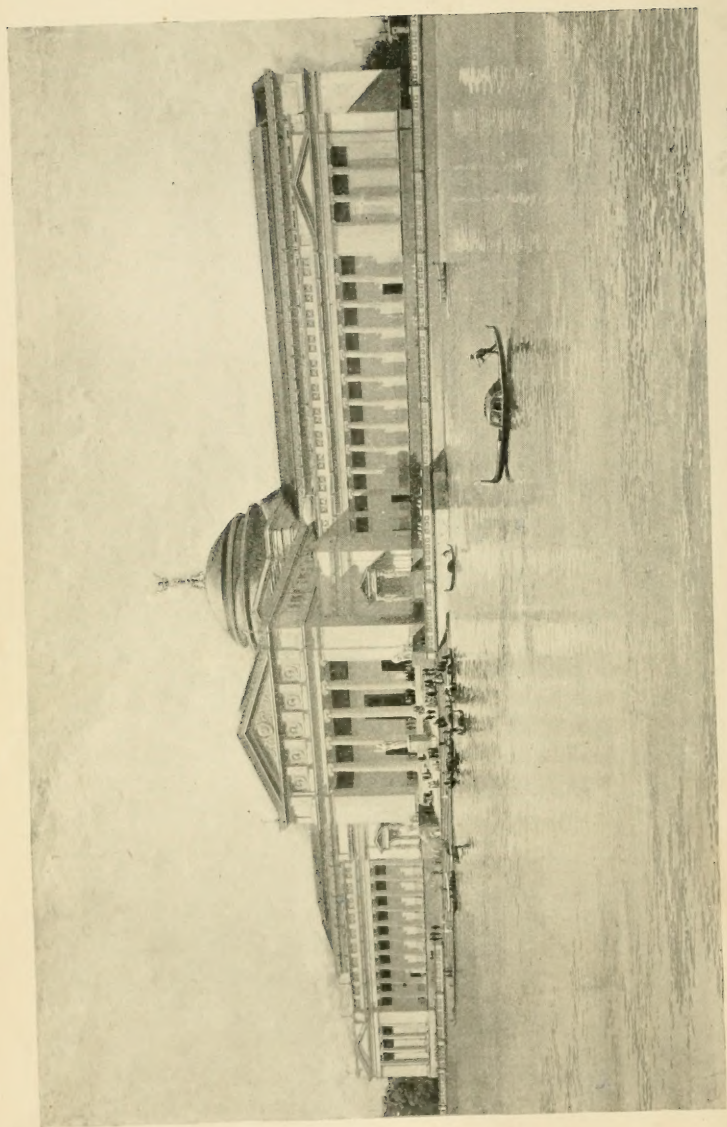
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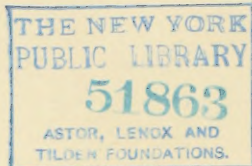
CHARLES THOMPSON MATHEWS, M. A.

AUTHOR OF THE RENAISSANCE UNDER THE VALOIS



1896

1896



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INTRODUCTORY.

ARCHITECTURE, like philosophy, dates from the morning of the mind's history. Primitive man found Nature beautiful to look at, wet and uncomfortable to live in; a shelter became the first *desideratum*; and hence arose "the most useful of the fine arts, and the finest of the useful arts." Its history, however, does not begin until the thought of beauty had insinuated itself into the mind of the builder. All the previous unfolding of the craft belongs under the head of archæology.

Roughly defined, architecture is the art of ornamental construction; not ornamental in the sense of decorated, but in the harmonious distribution of mass, in the convincing beauty of proportion. The entire subject is based on three simple constructive principles—that of the *lintel*, in which two uprights support a crosspiece, as seen in the austere temples of Egypt and the beautiful tranquil art of Greece; that of the *arch* or *vault*, especially characteristic of Roman and Romanesque work when large spaces required to be spanned; and that of the *truss*, or compound beam, composed of several subordinate pieces of wood or

metal, each one of which is intended to resist a particular strain or stress.

These three principles have ever guided the fashioning of the art in every land, whether in translating gray marbles into ivory and gold, as did Ahab in the templed and towered cities of the East, or in welding together the stone embroideries of the Gothic cathedrals in the West.

A more common classification is that of the *styles*, or varied phases of development due to different creeds and climates.

No art has shown itself more sensitive to the reflex action of civilization and social life in all its ramifications. Many of the grandest masterpieces of Gothic art have been due to the rivalry of distinguished prelates; and in France the favourites of the kings often ruled the destinies of the Renaissance.

Thus, when Louis XIV was swayed by the gentle, tender-hearted Louise de la Vallière Marly was built, and simple little villas sprang up in imitation all over the land. Under the dominance of the proud and ambitious De Montespan everything gave way to pomp and circumstance; two hundred millions was lavished on Versailles, and all Europe strove to imitate the splendid home of "*le roi soleil*"; when the bigoted De Maintenon won the heart and hand of the king convents, churches, and monasteries woke to new life—St. Cyr was built, St. Roch was recommenced, and the Invalides was completed. Finally, under Louis XV and Madame de Pompadour we see the scrolls and cupid decorations of the Rococo—rooms were transformed into *bonbonnières*, and all reflected the loves and license of the court.

One may go further and cite Diane de Poitiers, to whose patronage doubtless we owe the celebrity of Philibert Delorme and many of the masterpieces of Jean Goujon; but these examples, though local and peculiar to one country, are sufficient to illustrate how every phase of social life may influence an art so intimate as that of man's habitation.

To trace all the devious influences of society and civilization upon architecture would be impossible within the limits of the present volume. But throughout the story of the styles there are three forces common to every phase—namely, climate, race, and religion. Wherefore, in the succeeding narrative it will be our endeavour to point out, where needful, how these great formative factors affected an art which men have agreed to call “the index of civilization.”

Egypt contains the oldest architecture, as related in the succeeding sketch. Another almost synchronous style sprang up in the valley of the Tigris and Euphrates. Both influenced the architecture of the Greeks; primarily in Ionia, for Ephesus and Miletus were emporia of Egyptian trade, as well as the limits of the great trade routes of western Asia. The Romans in turn applied the Greek details to the arched construction of the Etruscans, and after the division of the empire, the Byzantine school arose in the East and inspired the Mohammedan or Saracenic style. This style swept westward with the banner of the Prophet through northern Africa into Spain, and eastward as far as the Brahmaputra, while in northern and western Europe an evolution from the Roman basilica culminated in the Gothic style of the Middle Ages.

During the fifteenth and sixteenth centuries the Gothic gradually gave place to the Renaissance or revival of Roman forms. A brief period of servile classicism intervened, and then followed the general eclecticism of the present day. Hence it will be seen that the temples of Egypt, Assyria, Greece, and Rome, the mosques of Byzantium, Cairo, and Granada, the Gothic cathedrals, and the Renaissance palaces—all belong to one huge architectural family, each having its own peculiar charm of line and colour.

Four other schools matured in Asia, namely, the Brahman and Buddhist styles of India, and the evolutions from tent and hut in China and Japan respectively; while the local phases of lintel construction in the early architecture of Mexico, Central America, and Peru complete the entire syllabus of styles. Thus it only remains to mention what is known as character and its requirements before beginning analysis.

Character in architecture means the expression of an emotion or feeling, as solemnity, grandeur, gayety, or repose, for "art is the ability to create a mood." In its higher forms, character can only be obtained through beauty of proportion and distribution of mass, for mere embellishment seldom dignifies; indeed, it rather dwarfs and degrades. To *conceive grandly* is the first requisite in every architect, and a requirement in the communication of character; for in art the thought ever outstrips its possible embodiment, and the hand can only reproduce the thought in a diminished way.

Many a young artist, delicately organized and tremulously sensitive to art, finds himself utterly in-

capable of thus musing in a monumental way. Such a one should seek the simple and severe, not pursue the picturesque and pretty, which, after all, has little in common with the best architecture. Thus a church should never be pretty, for prettiness is the province of chapels or cottages, while a cathedral should be grand, serious, and solemn as a requiem, and palaces should always be imposing.

Overrefinement is often admissible in the sister arts. Sculptors welcome the *orfèvrerie* of Cellini, the figurines of Tanagra; *litterati* delight in the felicitous phrasing of Gautier, Villon, and Walter Pater; painters revel in the exquisite gems of Watteau, Boucher, Vanloo, and Petitot; but no one admires the architecture of Fontana, Borromini, and Maderno. *Elle est trop travaillée.*

From this it will be seen that character, dependent on proportion or constructive beauty, determines the real architectural value of a work. But constructive beauty depends on the principles involved in the various historic styles. Hence the utility of the following sketch.

C. T. M.

NEW YORK, *September*, 1896.

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BIBLIOGRAPHY.—Mariette Bey : *Karnak, Étude Topographique et Archéologique*. Long : *Egyptian Antiquities in the British Museum*. Wilkinson : *Manners and Customs of the Ancient Egyptians*. Mariette Bey : *Monuments of Upper Egypt*. Lübke : *History of Art*. Fergusson : *The Illustrated Handbook of Architecture*. Ebers : *Egypt*. Baedeker : *Guide to Egypt*. C. Cox : *Pictorial Gallery of Arts*. Reber : *History of Ancient Art*. Gwilt : *Encyclopædia of Architecture*. G. Rawlinson : *Five Great Monarchies of the Ancient Eastern World*. Maspero : *Dawn of Civilization*. Eрман : *Life in Ancient Egypt*. Maspero : *Life in Ancient Egypt*. Petrie : *History of Egypt*.

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BIBLIOGRAPHY.—Lamprey : Chinese Architecture. Gutzlaff : History of China. W. Simpson : Architecture of China. Lowell : Land of the Morning Calm. Lowell : Occult Japan. Chamberlain : Things Japanese. Morse : Japanese Homes. Ichi Keikichi : Lectures. Tsumaki : Treatise on Japanese Architecture. Dyer Bell : Things Chinese. Chamberlain : Handbook. Satow : Handbook. Mitford : Tales of Old Japan. Conder : Japanese Architecture, printed in Transactions of Royal Institute of B. A., 1886-'87. McClatchie : Feudal Mansions of Yeddo.

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BIBLIOGRAPHY.—Beulé : L'Acropole d'Athènes. Dr. Smith : History of Greece. Van Brunt : Greek Lines. Plutarch : Lives.

Stuart and Revett : *Antiquities of Athens*. Tuckerman : *Short History of Architecture*. Homer : *Iliad and Odyssey*. Fergusson : *History of Architecture*. Mahaffy : *Old Greek Life*. Fyffe : *History of Greece*. PAGE

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Architecture. Pettit : Architectural Studies. Murray : Handbook of English Cathedrals. Davies : Architectural Studies. Rickman : Gothic Architecture. Ramée : Histoire de l'Architecture. Johnson : Early French Architecture. T. Roger Smith : Gothic and Renaissance Architecture. Nesfield : Specimens of Mediæval Architecture. Willis : Architectural History of Canterbury Cathedral. Parker : Introduction to Gothic Architecture. Lübke : Ecclesiastical Art in Germany during the Middle Ages. Street : Gothic Architecture in Spain. Strack-Letaronilly : Baudenkmaeler Roms.

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PUBLISHERS' NOTE.—While this bibliography is not exhaustive it will be found helpful, and its usefulness will be increased by the plan of topical division, which has been introduced as an aid to the student and adhered to, although several works belong to more than one chapter.

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THE STORY OF ARCHITECTURE.

CHAPTER I: EGYPT AND NUBIA.

EGYPT, geologically the youngest of all countries, contains, curiously enough, our oldest well-preserved monuments.

For over a thousand miles on either bank of the Nile rise temples, pyramids, and gigantic monoliths, older than the cave-dwellings of Tartary, the palaces of Nineveh, or the venerable temples on the Ganges, and existing thousands of years before the hanging gardens of Semiramis were even conceived.

The history of these great monuments divides naturally into four distinct periods: the *Memphite*, extending from about 4000-3000 B. C., and devoted mainly to the building of pyramids; the *Theban* (3000-1100 B. C.), to which belong the finest obelisks, temples, and palaces; and the *Saite* (1100-400), during which occurred an era of decline; while the fourth period, or *Ptolemaic age*, is marked mainly by a revival, in which, while architecture lost some of its majesty and dignity, it gained a certain elegance and refinement, due to Greek influence.

But among the glorious despotisms which bore architectural fruit before the date ascribed to the Flood, those of Cheops, Chephren, and Mycerinus in the fourth dynasty deserve special attention. Not that

the oldest monuments were built during the reigns of these kings (for the pyramids of Sakkarah, Dashour, and Medoun all date hundreds of years before this royal trio were born; while Menes, the founder of Memphis, built dikes and the Temple of Ptah some four thousand years before the Christian era); but to Cheops, Chephren, and Mycerinus we owe the prin-



FIG. 1.—Pyramid of Cheops.

cipal pyramids of the group of Gizeh (Fig. 1), which are held the most important typical and instructive creations of their kind throughout the land.

These great masses of masonry, fifteen in number, lie on the west bank of the Nile near Cairo, with faces turned to the four cardinal points of the compass. The three largest bear the names of the kings mentioned, and like all pyramids were intended as mausolea.

Their style of architecture was either an evolution from, or at least a prefigurement of, the earth mounds raised by primitive races in various parts of Europe, some of which may still be seen near Sardis and among the tombs of the Scythian kings on the banks of the Borysthenes.

In construction they consisted of a series of step-like platforms, diminishing from base to summit, and furnished with a casing of limestone or red granite, to fill the angles, and present four polished surfaces against the attacks of time and weather. The Great Pyramid has lost its entire casing, but a part of the casing of Mycerinus is still intact, a thing of permanent attractiveness, and with joints scarcely thicker than a sheet of paper. Nevertheless the Great Pyramid, or pyramid of Cheops (Fig. 1), is the more important, and ranks as the largest building in the world. It covers an area of thirteen acres, has a solid contents of three million cubic yards, and rises over a hundred feet higher than the dome of St. Paul's. According to Pliny, three hundred and sixty thousand men were employed to build it; while Herodotus, with customary exaggeration, estimates the number at forty thousand more.

All pyramids except those of Sakkarah have their doorways on the northern façade, from which lead stone galleries and subterranean passages in various directions, most of which terminate in mortuary chambers containing sarcophagi. These having been explored with much digging and some difficulty,* it

* Doors leading into the pyramids or their inner chambers are closed, as a rule, with portcullises made of large blocks of stone, often weighing

was discovered that only one chamber ever held the veritable remains of the king or founder, the others being designed simply to throw plunderers and desecrators off the scent.

From the doorway of the Great Pyramid, which is pierced some fifty feet above the base, a passage leads downward at an angle of twenty-six degrees (from which theorists have urged that it was designed for taking observations of the polar star; but the fact that the angles in no two pyramids are alike, renders the idea untenable). This passage pursues its way

farther downward to the so-called Queen's Chamber and a subterranean well; while another passage leads upward to the King's Chamber.

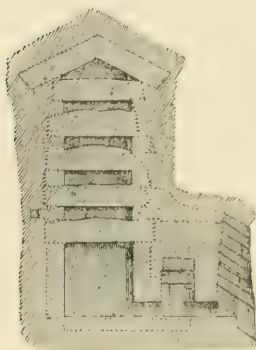


FIG. 2.—Section of King's Chamber in the pyramid of Cheops.

Until 1837 it was the marvel of the engineers how the ceiling of the King's Chamber (which was formed of slabs of syenite) could sustain the thousands of tons superimposed. But the explorations of Col. Vyse developed the fact that above this ceiling existed a series of compartments also

ceiled with granite slabs (which of course greatly relieved the stress), while the top compartment discharged its portion of the weight by means of a gable. Should anything happen to destroy this upper gable,

fifty or sixty tons. These had often to be tunnelled or cut around by explorers in order to effect an entrance.

the tendency of the slab below would be to break and form another (see Fig. 2).

The pyramid of King Chephren is somewhat smaller than that of his brother, Cheops, but even so, covers an area of over ten acres and stands one hundred and fifty feet higher than the tallest twenty-story building in New York.

Like the Great Pyramid, it is intersected with galleries lined with polished granite and vaulted by means of corbels approaching one another at the top. These passages lead to mortuary chambers. In one of them, which was partly above ground and partly excavated from the native rock, Belzoni discovered the bones of a bull, which gave rise to much discussion as to whether the pyramids were not originally intended as sepulchres for the animal gods of the Egyptians, especially the bull of Apis; but the burden of proof now discountenances this theory.

The pyramid of Mycerinus is smaller than either of the other two, its dimensions being exactly half those of Chephren. Nevertheless it occupies more ground than the largest Gothic cathedral in the world, and is high in proportion. The Greeks wrongly attributed this monument to the courtesan Rhodopis,* but, as Herodotus points out, this lady lived in the time of Amasis, who, as near as can be judged, reigned three thousand years later.

From an æsthetic point of view it is the most beautiful of all, on account of its casing of polished red granite from the quarries of Syene, the others having

* Rhodopis was a Thracian by birth, and servant to Iædmon. She was also a fellow-servant of *Æsop*, the writer of fables, and was ransomed by Charaxus of Mitylene, a brother of Sappho, the poetess.

only limestone coverings, whitened by eternal summer suns. But beauty was the quality least aimed at during the Memphite period, grandeur, eternity, indestructibility, awe, and mystery being the attributes mainly sought and successfully achieved.

Thus all the pyramids are really less architecture, than great feats of masonry, but they form an interesting link between *mechanical* and *architectural* con-



FIG. 3.—The Sphinx.

struction ; between building as a matter of engineering and building as a matter of taste.

Another monument near Cairo should not be passed over in silence—namely, the Sphinx (Fig. 3).

This colossal statue, fashioned half human, half lion, is the oldest and largest of all sphinxes, and was begun at the order of a king whose name has not come down to us, though we know Chephren to have completed it.

The length of the body is one hundred and forty feet, while the face measures thirty by fourteen feet. Hor-em-Khoo, or “The Sun in his Resting Place,”

was the name given by the ancients, and that the Sphinx was worshipped as typifying a god is proved by the slab carved with hieroglyphics upon the breast. This relates that King Thotmes IV was wont, after hunting lions in the vicinity, to pay his devoirs to this "Great Watcher of the Desert" and built a temple between the paws to offer incense to the nostrils, sixty feet above.

The face of this great mystery in stone has been so mutilated * by vandal conquerors that little of its original beauty now remains, but from the descriptions of travellers in the fourteenth and sixteenth centuries we know that it must have delighted the eye as well as the imagination.

Before leaving the Memphite period the kind of tombs known under the name of *mastabahs* warrant interest, since to these, as germs, we owe the evolution of the Doric style.

All *mastabahs* were shaped like frustums of oblong pyramids and composed of either stone or sun-dried brick.

Each was divided into three principal parts—namely, the chamber or temple, the *serdab*, and the well.

The chamber was (as Chipiez puts it) "a neutral ground where the quick and the dead could meet, the former to present, the latter to receive funeral offerings." Friends and relatives also used this cheerful spot as a family rendezvous.

The *serdab* or corridor, on the other hand, served

* The head was originally surmounted by a red cap or helmet, which has been recently excavated by Col. G. E. Raum, of San Francisco; while fragments of a beard have also been unearthed.

exclusively to hold statues of the deceased, which simulacra were believed to guarantee his future existence.

The well was simply a vertical passage leading down to the mummy chamber hewed out of the bed of rock. Both *serdab* and well were walled up with masonry to guard against thieves and desecrators.

However, architectural interest centres chiefly in the chamber or temple, for within, the walls were brilliantly painted with allegorical pictures, and without, at the entrance, stood *two square piers*, often capped with a quadrangular slab or abacus. In process of time these square piers were made octagonal by cutting off the corners, then sixteen sided and grooved, until under the Theban monarchy we find in a tomb of the necropolis at Beni-Hassan

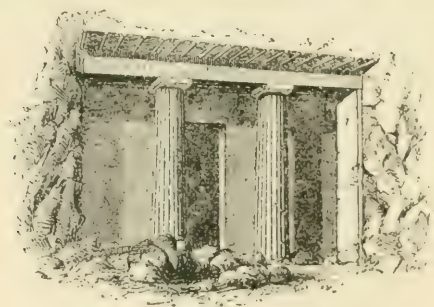


FIG. 4.—Tomb at Beni-Hassan.

(Fig. 4) the fluted columns and moulded lintel called Proto-Doric, from which the Greek Doric order* was eventually evolved.

* "Order" is a comprehensive term in classical architecture for a column, pedestal, and entablature.

From the Memphite *régime*, which ended with the tenth dynasty, we now pass to

THE THEBAN PERIOD OF EGYPTIAN ARCHITECTURE.

With the Theban monarchy opens a new architectural era for Egypt. In place of pyramids rose

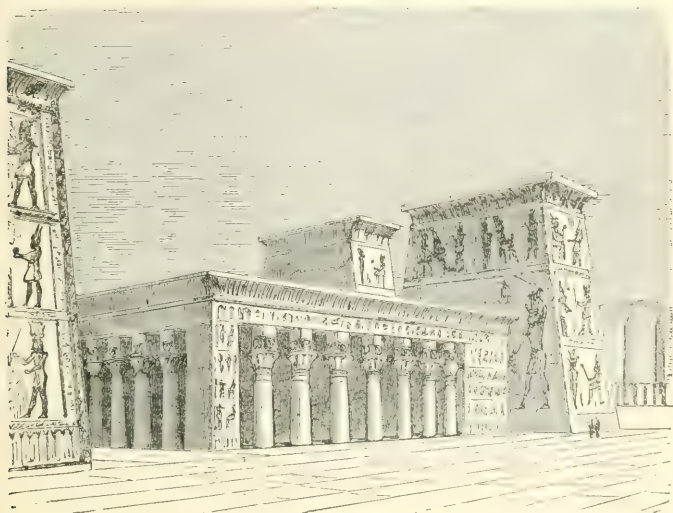


FIG. 5.—A temple of the Theban period. From Colomb.

obelisks, temples, and palaces above broad brick terraces (Fig. 5), while colossal statues etched themselves against the sky, like those of Amenophis, which could be seen twenty miles away, and were said to cast their shadows as far as the Libyan chain.

During this period, however, building activity was by no means continuous. True, under Osirtasu I and Amenemhat I arose a second golden age more

splendid than the Memphite period, and to these kings and their subjects we owe the temple and obelisk of Heliopolis, the tombs of Beni-Hassan, the Temple of Karnak, and probably Lake Mœris and the Labyrinth. But after the invasion of the Hyksos, about 2200 B. C., there followed an interregnum, lasting six hundred years, during which absolutely nothing architectural occurred; and thus it is necessary to pass to the eighteenth dynasty before finding another great art revival.

But, with the Hyksos driven out by Ahmes (Amosis) and the Pharaohs once more upon the throne, Theban architecture rose to greater power and splendour than ever before, and its enthusiasm spread in the shape of monuments all over Egypt and the vassal states of Nubia and Abyssinia.

The Temple of Ammon was enlarged by Thotmes I, obelisks reared their points everywhere, Sesostris founded the Rhamesseum, and built the temple of Ipsamboul; while Rhameses III erected Medinet-Abou.

Having this historic outline in mind, we can now return and briefly analyze some of those great monuments which punctuate the monotony of ancient history and give it new meaning and clearness.

The obelisks first claim attention, as being the simplest, and as being especially characteristic of the Theban period.

All follow one rule, namely, a four-sided prism of stone set up on end, tapering toward the top, which latter is shaped like a small pyramid, while its sides are covered with sculptured hieroglyphics, often of great historic value.

The horizontal section is either oblong or square, and careful examination has shown the sides to be slightly convex, in order not to appear concave.

This mode of giving a slight curvature to lines and yet apparently leaving them straight was afterward used by the Greeks in the greatest of all buildings cresting the Acropolis, for the Parthenon contains not a single straight line throughout its composition, and much of the subtle beauty and refinement which characterizes it is undoubtedly due to this expedient.

The first obelisk set up as a monument in Egypt was that of Heliopolis, quarried and erected at the order of Osirtasu I. This great monolith stands over sixty-seven feet in height, and now adorns the Central Park of New York. It is composed of the granite of Syene, a valuable material when one remembers that it has resisted time and weather from at least six hundred years before the Flood.

Another fine obelisk of the same material stood at Luxor and now decorates the Place de la Concorde in Paris.

The two grandest of all, however, are those erected by Thotmes I and Thotmes III of the eighteenth dynasty. The first is at Karnak, and measures ninety-three feet six inches in height. The second (one hundred and five feet in height) was carried to Rome by Constantius in 357 for the Circus Maximus, and forms the *pièce de résistance* of the Piazza di San Giovanni in Laterano.

Obelisks as a rule were disposed in pairs, and generally on either side of a temple door; but so little

was symmetry regarded that the monoliths forming the same pair were often of different sizes.

From obelisks to temples the transition is easy, but here the subject divides into two parts, namely: Hypæthral (or under-air) temples (so called from be-

ing built above ground), and *spea* or grotto temples, hollowed in the mountain rock. To the former belongs such fanes as those of Karnak, Luxor, Medinet-Abou, Ammon re, and the Rhamesseum; to the latter, those of Ipsamboul, Dandour, and Der, in Nubia.

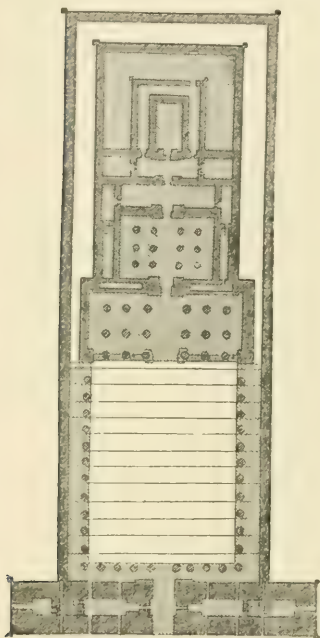


FIG. 6.—Plan of the Hypæthral temple.

All hypæthral temples were composed of three principal features: A colonnaded court; a pillared portico of stately columns gorgeously tapestried with colour called the hypostyle hall; and the temple proper, containing the sanctuary, which none but kings and priests might enter (Fig. 6). All were

girt about by a brick wall lined with a *temenos* or sacred grove, and entered by means of a great pylon rimmed by a cornice, and set with iron stocks for gleaming cressets in the night or flaunting banners in the day.

Between the colonnaded court and the hypostyle hall rose the so-called propylæa (two large towers joined by a gate) furnished with staircases and terraces, and flanked with obelisks; and another propylæa frequently divided the hypostyle hall from the sanctuary. Before the gateways colossal statues of



FIG. 7.—Statues of Amenophis.

kings or gods towered on either hand, the most famous being those of Amenophis (Fig. 7), above mentioned, called incorrectly Memnon by the Greeks, after the son of Aurora.

All walls inclined inward at an angle of about

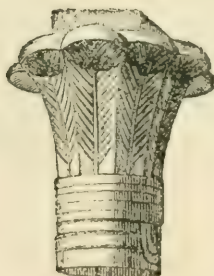
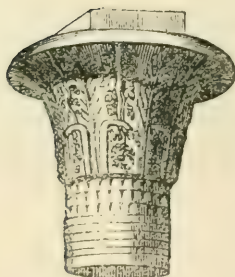
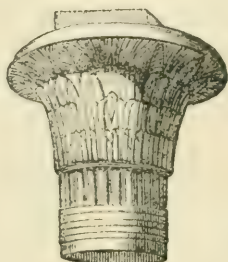
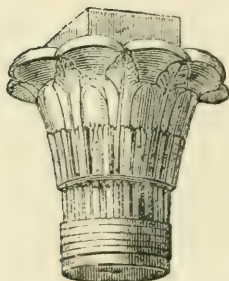
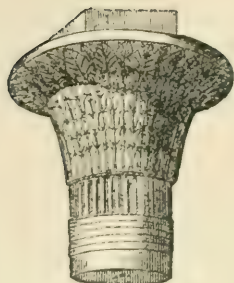


PLATE I.—Examples of Egyptian capitals.

seventy degrees on the outside, but remained vertical on the inside. Columns were generally round and tapered toward the top, having shafts sculptured with lotus leaves or fashioned in the form of bundles of rods bound together with grasses, while capitals assumed various forms (Plate I), as the conventionalized calyx of a flower, a bunch of water reeds surmounted by an abacus (Fig. 8), caryatid heads of Isis and Osiris, and other shapes more or less fantastic.

Such were the principal component parts of hypæthral temples.

The grotto or rock-cut temples of Nubia were much the same in arrangement, though as a rule simpler, having only a portico, temple proper, and sanctuary *en suite*. But there are some, like the Temple of Wady Sabooah, equipped with all the gorgeous approaches which often distinguished their more imposing neighbours.

The most stupendous example of hypæthral architecture in Africa was the great temple of Karnak.

This temple was to the Egyptian architecture what St. Peter's was to the Renaissance, namely, a comprehensive expression of all that was best in the art of its own period. But the former was even more comprehensive than the latter, for while St. Peter's required nineteen pontiffs and one hundred and twenty-six years to bring it to completion, Karnak employed the best energies of twenty-one kings



FIG. 8.—Egyptian capital.

at various intervals through a cycle of over two thousand years, during which time Egyptian, and especially Theban art, reached its highest point of development.

To Osirtasu I we owe the foundation of this collection of buildings, though little now remains of *his* portion of the work.

From the inscriptions of the walls it is evident that the ancient name was Apetu; but the Temple of Karnak is the universal appellation at present.

Twelve entrances originally gave access to the main inclosure. One of the most important was that facing toward the south, for a double row of sphinxes a mile and a half in length joined it to the Temple of Luxor, forming an imposing roadway for the festal parades of priests, which played a prominent part in Egyptian ceremonial.

This entrance, however, is by no means the most imposing, the grandest approach of all being that facing *northwest*, and at right angles to the Nile. Here devotees sailing down the river were wont to land, and after traversing an avenue of sphinxes—half a mile long in this case—enter the first court by means of a propylæa one hundred and eighty feet in height.

Within the court rows of columns and a second propylæa led into the great hypostyle hall of Seti and Rhameses II (Fig. 9), the masterpiece of Thebes, which had an area of fifty-nine thousand five hundred square feet.

Figs. 10 and 11 show the general arrangement and distribution of the apartment as well as the scheme of lighting by making the middle row of columns higher

than those of the wings, technically termed a *clerestory*, a mode of illumination followed later in all great Gothic cathedrals.

This mighty hall, with its floods of yellow light softly distilled into violet by diffusion through the

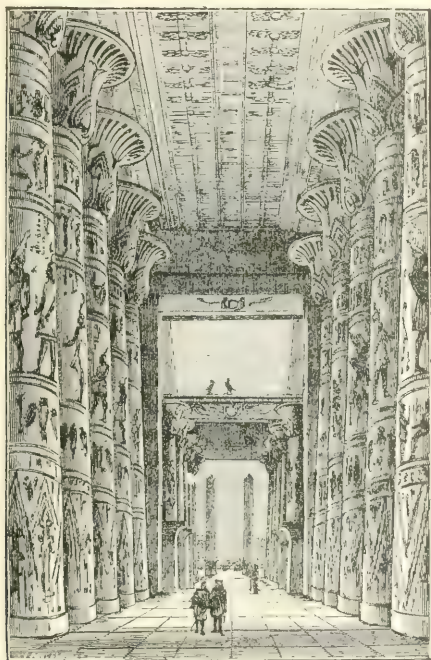


FIG. 9.—Hall of Rhameses II restored.

interrupted spaces; its one hundred and fifty columns, eight to eleven feet in diameter, flowering into lotuses at the top and gay with Oriental colour, must have been the grandest and most superb antechamber of antiquity. It is the last building

of the Nile approach, for here it joins the sphinx avenue from Luxor, being linked at the point of contact by a court (once decked with four obelisks

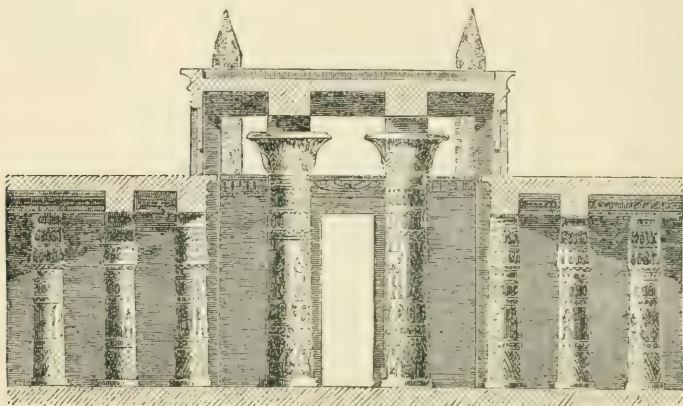


FIG. 10.—Section of Hypostyle hall at Karnak.

and colossi of the king), and together proceeding to the temple proper.

As to the great temple itself, it was simply a gigantic mosaic of propylæa, peristyles, chapels, sanctuaries, and hypostyle halls, with scores on scores of minor apartments jewelled with colour, filled with statues of gold, silver, ivory, and precious marbles, and incrustated with finely chiselled bas-reliefs and hieroglyphics of priceless value to the historian.

Thotmes III (*circa* 1650 B. C.) founded the larger part of this exquisite *mélange*, though certain portions date from Thotmes I, and even earlier.

Back of the Holy of Holies were three other sanctuaries, built for royalty alone.

In one the kingly founder worshipped the shades of his ancestors ; in another he made offerings to the gods on an altar of red granite (a ceremonial instituted in the twenty-fifth year of his reign, on the occasion of certain great victories in battle) ; while the third was devoted to the adoration of the sparrow-hawk, emblem of the sun and mighty Ammon, the god of creative force.

Such was the Temple of Karnak, the grandest of

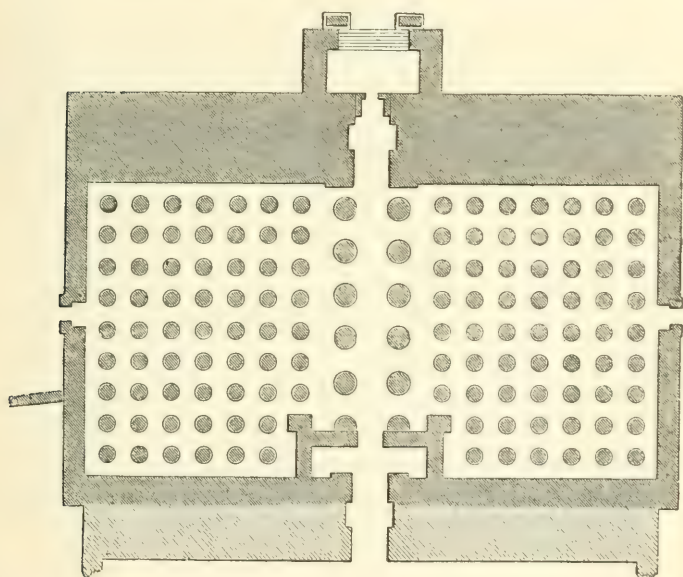


FIG. II.—Plan of Hypostyle hall at Karnak.

Egypt, the richest of Africa, and to-day, alas! the most pillaged and despoiled of all (Plate II).

Of the *spæa* or grotto fanes of Nubia, the great and small temples of Ipsamboul challenge most atten-



PLATE II.—Ruins at Karnak.

tion. They were built by Rhameses the Great, set like jewels in a matrix of rock, and dedicated to Ra and Athor, the Phœbus and Aphrodite of Egypt.

The Great Temple is the more important of the two. When first discovered by Belzoni it was so choked up by the *débris* and sand of centuries, that only the head and shoulders of one colossal figure could be seen. Patient excavation, however, revealed a façade of one hundred feet in length (subdivided

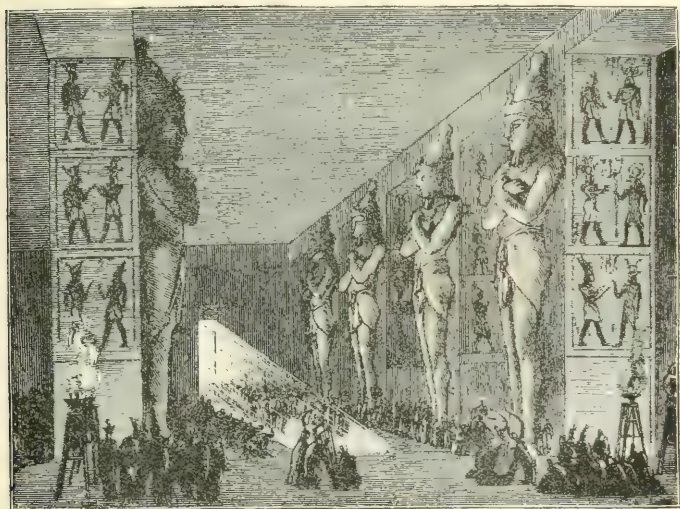


FIG. 12.—Temple of Ipsamboul.

vertically by four colossi of the king, each sixty-one feet in height, seated on thrones) and surmounted by a cornice crested with sitting monkeys—the symbols of Thoth, god of the intellect.

In the great hall of assembly (Fig. 12) are piers embossed with great statues of Osiris, each figure

fashioned in the form and features of Rhameses the Great, while all the walls are graven with bas-reliefs and hieroglyphics recounting the conquests of that king.

The only light in the apartment comes through the doorway, from which results a most fantastic discord of light and shade—a *tour de force* in colour—a nocturne in purple and gold.

Several smaller chambers, linked by passages, connect with the main hall, the most important being the sanctuary.

Here deep in the bowels of the earth four great statues of Ammon, Phre, Ptah, and Rhameses II are enthroned in a rock-cut chamber, which when lit by the fitful flare of flambeaux still reveal the faint gold and fading crimson of primeval ages lingering on the walls in mystic souvenir of remote magnificence.

TOMBS.

While there are no rock-cut *temples* of importance in Egypt, there are numerous examples of rock-cut *tombs*, many of which lie in the valley of Biban-el-Melouk or “the Gates of the Kings,” west of the plain of Thebes.

Most of these were the last resting places of royalty or court dignitaries, commoners being buried in catacombs, subterranean vaults, or mummy pits in the necropolis.

As tombs they are much more valuable historically than architecturally. For no sooner did a Theban ruler ascend the throne than he began work upon his last earthly home, which labour continued till the day of death.

The most important tomb in Egypt is the tomb at Beni-Hassan. It is extremely simple in comparison to those of the kings of Thebes, consisting, as it does, of only three apartments. But, as Goethe says, "it is in working within limits that the master reveals himself," and the unknown architect who hewed this grotto has thus previously proved the poet's epigram.

From the inscriptions graven on either side of the door we know that this was the last home of Ameni-Amenemha; that he was a general of infantry, and led two campaigns, one against the Arou and another against the Ethiopians; that he lived in the reign of Osirtasu I, or about 3000 B. C., and marched into battle with the son of that great Pharaoh. As regards his political successes, we are furthermore informed that he was appointed governor of the province of Sah, which trust he administered most meritoriously.

This hero of nearly five thousand years ago may have had many other great qualities, but the clever architect considered these few good deeds which adorned his character sufficient to adorn his tomb, and thus avoided both ostentation and epitaph hyperbole. In the vestibule columns support a lintel wrought with imitations of projecting rafters, while above the hall of assembly bends a ceiling springing from fluted columns and hollowed in the shape of a vault. These constructive features go far to prove that the grottoes of Egypt were quarried and chiselled in imitation of the buildings, and not that the buildings were an evolution from the grottoes, as certain theorists at one time advanced.

Within the hall of assembly the walls are elaborately painted and sculptured in low relief with hunting and battle scenes and other kindred subjects appropriate to the rank and personality of the occupant. This was not always done, for the tombs were often built by the priests and sold, after much bargaining and haggling, to the relatives of the deceased, who, if they had not provided for the contingency, were usually compelled through haste to accept whatever unfair terms the priests might offer.

Not that Egyptians were oversensitive about having a mummy about the house. Indeed, we know from Lucien* and other early writers that they sometimes had the mummy brought out and placed at the table as one of the guests during a feast. But a social stigma attached to people not having a consecrated place of burial for their dead, as well as a religious fear respecting the repose of a departed soul if the body remained unburied.

THE LABYRINTH.

Before leaving the earlier periods of Egyptian architecture, the building feat known as the labyrinth warrants consideration, it being the original from which the Labyrinth of Crete was afterward copied by Dædalus.

Herodotus, Pliny, Strabo, and Diodorus all mention this architectural jungle, as do most of the fables of antiquity, but from none of them do we know the builder. It may have been one of the three hundred

* See Lucien's Essay on Grief.

and twenty sovereigns concerning whom Herodotus maintains such mysterious silence; possibly the fair Queen Nitocris, who performed that picturesque revenge upon her brother's murderers by inviting them all to dinner in a subterranean chamber, and then turning in the Nile upon the company through a secret canal.

As a rule, however, modern investigation attributes it to Amenemhat on account of certain inscriptions discovered near the site. But whatever the parentage of the labyrinth, it must have been certainly interesting.

Half above and half below the earth it wound its complicated way about three sides of an open court, embroidered all over with twisting intricate passages, like petrified lace, dishevelled, chaotic, and confused—a turmoil of architecture running riot and gone mad, a study of inconsistency, beauty, and disarray.

Huge square monoliths of granite supported the ceiling and broke the monotony of the tortuous galleries, all of which were enamelled with rosy syenite and Oriental alabaster; but throughout the entire building not a moulding, not a scroll, not a hieroglyph distracted the eye; nothing but the naked beauty of material, the grandeur imposed by mass.

Sixteen chapels or temples corresponding to the sixteen nomes of Egypt were scattered at intervals throughout this wilderness, but now nothing of the kind remains; and save the broken portion of a pyramid there is naught by which to discriminate the destiny of the whole.

THIRD AND FOURTH PERIODS, OR THE DECADENCE
AND REVIVAL.

During the twenty-first dynasty an era of decline began, which continued with unimportant interruptions till the reigns of the Ptolemies.

Much of the decay was due to the political fermentation consequent upon foreign wars, which afforded little opportunity for æsthetic thought and development. For under Sheshonk (the Shishak of the Bible) occurred the taking of Jerusalem in the fifth year of Rehoboam (971 B. C), and under Pianki burst forth the Ethiopian conquests ; while the reigns of nearly all the others were involved in doing battle with either the Assyrians or Persians and in quelling insurrections of a military kind.

However, two periods of comparative peace broke the continuity of war, one under Tahraka, the other under Psammeticus I. These kings removed the court to Sais, where it remained so long that the period of decadence is sometimes called the Saite period.

To Tahraka we owe some of the beautiful propylæas at Karnak, while Psammeticus added to the temple of Ptah and did much good work as a rebuilder.

In 529 B. C. the Persian invasion of Cambyses interposed. Temples and tombs were violated and destroyed, private property was pillaged, and quantities of beaten gold and silver were carried away across the sea in the triremes of the satraps to adorn the palaces of Persepolis and Susa.

Thus destruction, not creation, became the order of the day, and under the Persian yoke architecture

sank to the lowest point of production since the days of Menes and the Memphite régime.

After the great revolt Nectanebo I made a spasmodic effort at creating a Renaissance, and strewed the land from Philæ to the delta of the Nile with temples, terraces, tombs, and public works; but the attempt proved abortive, and architectural history passes almost directly to the Ptolemaic age.

Under the descendants of the Macedonian general, Egypt once more awoke to the necessity of art. Peace procured plenty, and the harbours of Arsinoë, Berenice, and Alexandria were choked by Phœnician galleys with their purple embroidered sails, all laden with gold, silver, ivory, textile work of Tyre, and graven gems; while triremes, with brazen prows of green and gold, thronged the inlets of the Red Sea, bearing rare woods, gems, perfumes, porcelains, and spices from the sovereigns of the East, with silks, wrought metal, and filigree from far-away fountain-filled Damascus.

Besides all these, the revenues of the state were enormous, and even under Ptolemy Auletes, the father of Cleopatra, "the most careless of all monarchs," amounted to twelve thousand five hundred talents, or twenty million dol-

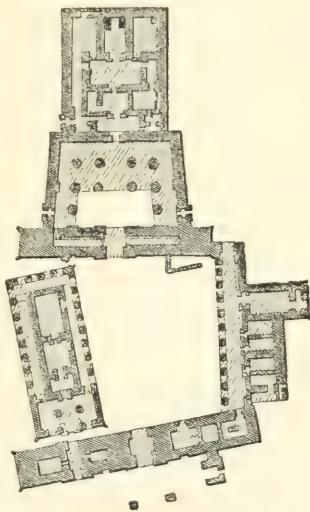


FIG. 13.—Temple at Philæ.

lars in gold per year. Hence the material requirement was not wanting for architecture, and temples began to rear their sculptured beauty on every hand.

Under the Ptolemaic rule temples differed quite materially from the palaces of worship of the Theban kings.

The plans show much greater irregularity as at Philæ (Fig. 13), but also less originality, and cover a smaller area of surface. The purpose, whether they are ecclesiastical or palatial, is no longer problemat-

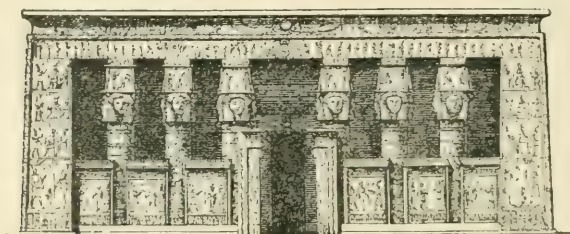


FIG. 14.—Temple at Denderah.

ical, and each shrine asserts itself frankly as the house of a god.

A portico often takes the place of the hypostyle hall, and is lighted from the front over a partition placed between the columns as at Denderah (Fig. 14).

A peristyle court and richly sculptured propylæa always stood before each temple, that of Edfou being especially imposing.

Ptolemaic temples had greater unity than those of earlier times, for each was usually completed within a single reign. Another advantage was the elegance and refinement displayed in the distribution of mass. But, on the other hand, the sculpture and detail was

so inferior in comparison to that of Karnak, Beni-Hassan, and the like as to appear almost frivolous at times. This is especially noticeable in the capitals of the columns, for in place of the papyrus cup and simple lotus of Theban days one finds a female head of Isis surmounted by a fussy little temple trivial in the extreme, as at Denderah (Fig. 15).

Space will not permit further analysis of the temples of the Ptolemies, but before leaving the subject the buildings of a certain class claim consideration. These buildings existed in Egypt from the eighteenth dynasty to Cleopatra and the Roman conquest, and were called Typhonia or Mammeisi, according as they were employed. Both were supplementary chapels to larger temples. The first were dedicated to Typhon, the personification of evil, probably in a spirit of religious hedging. The Mammeisi chapels, on the other hand, were vowed to the offspring of the god and goddess to which the larger adjacent temples were accredited, and a representation of the birth of Horus, son of Isis and Osiris, was frequently emblazoned on the walls within.



FIG. 15.—Column and capital at Denderah.

Architecturally, the Typhonia and Mammeisi much resembled one another, but with the essential difference that whereas Typhonia were small adaptations of the larger Egyptian houses of worship, Mammeisi were analogous to the peripteral temples of Greece.

A beautiful example of a Mammeisi chapel stood on the island of Elephantine near Assouan, but was destroyed in 1822 by Mohammed Ali in order to make room for his palace.

DOMESTIC ARCHITECTURE.

The most striking peculiarity of Egyptian domestic architecture was its transitory and ephemeral character, a thing even more surprising when one has studied the temples and monuments of the country, all of which were built to defy eternity.

The reason of this transient quality was mainly due to the priests, who taught that it was a sin to expend time, labour, and money upon the homes of this probation state, and that all energies should rather be concentrated upon their "eternal habitations," as they loved to call their tombs. Thus all the domestic architecture of the land, so far as we know, was composed of sun-dried brick and wood. And hence all material testimony thereon has been swept away by time, so that with the important exception of the pavillon of Medinet habou, built by Rhameses III, all data must be sought among the pictured representations and hieroglyphics on the walls of more enduring monuments. These, however, are so abundant and complete as to enable one to form a pretty accurate idea of the everyday life and history of the nation, and especially the setting and *mise en scène* thereof.

Wherefore, the most casual research soon brings to light the fact that the philosophy preached by the priesthood was only followed in a very half-hearted way as regards asceticism of life, and that love of luxury was just as strong among this death-contemplating race as among the epicurean inhabitants of Cumæ, Baiæ, and Tarentum ; but with this difference that, whereas the latter built eternal monuments for the pleasure of a day, digging seas to keep fresh their fish and Lucrinian oysters, the Egyptians reared *their* abodes entirely in accordance with the temporal quality of their pleasures and life.

Their houses, though of base material, were beautiful, and their streets were laid out symmetrically in cool, shady avenues, with groves of crimson and gold pomegranates, surrounded by embattled walls.

The houses themselves were not huge conservatories, all window, like certain modern structures of New York ; nor did they rise twenty stories into the sky, and shut out the air and light. The usual height of a dwelling was three stories, surmounted by a terrace and hanging gardens, like those of rose-girt Damascus or Ispahan "the garden city of the sun," and each was relieved in colour by brilliant wall fresco, and gaily decked awnings of cadmium and vermilion.

The entrances were pillared porticoes, interspersed with statues of the king, and the rooms were grouped about an open court, with dark-green foliage and cool fountains on either hand, like the *atria* of the Romans. Within the court was a small building supported on columns, used as a reception room for visitors, but otherwise the plan and distribution of the

apartments followed the method pursued later in Rome. Such was the average town house of an Egyptian gentleman, while the country villas and royal hunting lodges differed from it mainly in extent rather than in kind.

Before leaving the subject of Egyptian architecture a word must be said concerning

THE INVENTION OF THE ARCH.

For years the principle of the arch was attributed to the Etruscans, principally because the Greeks, who preceded them in architectural evolution, made no use of it; but recent exploration has proved that neither the Assyrians nor Egyptians were strangers to this device, whether in its semicircular or pointed form. At Sakkarah there still stands a stone arch dating from the time of Psammeticus, or 650 B. C., while drawings made at Beni-Hassan show that the principle was known as early as the commencement of the eighteenth dynasty, and even as far back as Osirtasu I, a contemporary of Joseph.

Arches nevertheless played a comparatively unimportant part in Egyptian architecture, and were employed as a rule in underground vaults or in the secondary portions of a building, the rigid calm and solemnity of straight lines—vertical and horizontal—appealing more to the severe taste of the nation, who sought first of all stability in their monuments, and disdained the employment of all pressures in construction, save those warring against gravity. "The arch never sleeps," says the Oriental proverb, hence its unpopularity in the Land of the Pyramids and Eternal "Miracles in Stone."

TABLE OF EGYPTIAN CHRONOLOGY.

FIRST PERIOD.

The Old Empire.

4

I-II Dynasties, Tanis. III-VIII Dynasties, Memphis. IX-X Dynasties, Heracleopolis.

Ten Dynasties, mainly Memphite.

B. C. 4000.

I. Menes.

Founded Memphis, built dikes and Temple of Ptah.

III. Senefru.

Pyramids, Sakkarah, Dashour, Meydoun.

3500.

IV. Khufu (Cheops).

1st Pyramid of Gizeh.

Shafra (Chephren).

2d " "

Menkare (Mukerinus).

3d " "

SECOND PERIOD.

Ten Dynasties, XI-XX, mainly Theban.

XI-XIII Dynasties, Thebes. XIV, Sais. XV-XVII, Tanis. XVIII-XX, Thebes.

XI-XIV.

The Middle Empire.

Tombs and Temples.

3000. XII.

Osirtasu 1st.

Beni-Hassan, Temples of Karnak, Temple and Obelisk of Heliopolis.

2200. XV-XVII.

Amenemhat 1st (Amenophis). Lake Moeris and labyrinth.

Invasion of the Shepherd Kings. (Hyksos.)

Apepi, last of the Shepherd Kings. (Joseph.)

The New Empire.

Tombs, temples, and obelisks.

XVIII-XX.

TABLE OF EGYPTIAN CHRONOLOGY (CONTINUED)

1000.	Achmose (Amose). Pharaoh 1st. Pharaohs 2d. and Queen Hatsheout.	Drove out Hyksos. Enlarged Temple of Ammon at Thebes and built obelisks.
XVIII Dynasty.	Thutmose 3d. Amenophis 3d. (Memnon). Amenophis 4th. Horus.	Obelisks Great conqueror and builder. Disk worship. First king deified.
1400.	Rhameses 1st. Sen 1st.	Founder of the XIX Dynasty. Overthrew Hittites. Wall across Isthmus.
XIX Dynasty.	Rhameses 2d. the Great (Sesostris). (Cosynmandas.) Menephtah. Rhameses III. Rhameses IV XII.	Rhamesseum (Memnonium). Great victory over Hittites. Rock temples at Ipsamboul. Temple of Kalabsche. Exodus 1322 B. C. Temple of Medinet-Abou.

THIRD PERIOD.

Ten Dynasties, XXI-XXX, mainly Saite.

XXI-XXIII, Tanis.	XXIV-XXVIII, Sais.	XXII, Bubastis.	XXIX, Mendes.	XXX, Sebennytis.
XXI-XXX.	The Decline, Saite Revival and conquests.			

1050.	XXI.	Herhor.	Founder of the dynasties of priests.
	XXII.	Sheshonk (Shishak).	Took Jerusalem.
755.	XXIII.	Pianki.	Æthiopian conquests.
	XXIV.	Bocchoris (the Wise).	Burnt by Sabaco.
	XXV.	Sabaco (Chabak).	Sargon victorious over the Egyptians.
		Tirhaki (Tahraka).	Sennacherib's army destroyed in a night.
			Comparative peace in Egypt. Iropylaa at Karnak.
681-668.	XXVI.	Esarhaddon and Assurbanipal.	Assyrian conquests.
		Psammetichus.	Gained sovereignty in Egypt. Great rebuilder.
		Psammetichus 3d.	Greeks allowed to settle in Egypt.
529.	XXVII.	Amartyæus.	Persian conquests. Cambyzes, Darius, and Xerxes.
415.	XXVIII.	Nectanebo 1st.	Herodotus visits Egypt.
	XXX.		Plato visits Egypt. Revolt against Persians.
		Nectanebo 2d.	Added to Temple at Karnak.
			Last of the Pharaohs. Obelisk and sarcophagus in British Museum.

FOURTH PERIOD.

		Foreign Rulers—Persians, Greeks, Romans, Arabs.
336.		Darius 3d.
332.		Alexander the Great.
305.		Ptolemy I-XI.
64.		Cleopatra, Caesar, Anthony.
30.		Roman conquests.
632 A. D.		Arab conquests.
		Alexandria founded.
		Philæ, Esneh, Edfou and Denderah.
		Hermionthis.
		Kalabsche.

CHAPTER II: INDIA, INDO-CHINA, AND JAVA.

INDIA.

HINDU architecture is less congenial to the average student than that of many other lands from the fact that it has played no part in the development of the European styles. The Indian people, like the inhabitants of China, were in no sense a migratory race, and cared little for propagandism either in literature or art; hence their architecture, naïve and unperplexed in execution, is distinctly *sui generis*, un-affecting and unaffected by other countries; the only exceptions to the rule being Indo-China, Java, and a few adjacent islands, in which the Buddhist cult holds almost universal sway.

The dryness of the Indian climate and the enormous antiquity of the race would lead one to expect monuments older than those of Egypt; but the most patient investigation has hitherto failed to discover any existent building antedating the third century before Christ. From that date, however, the architectural history of India unfolds with tolerable clearness, and may be classified into three separate styles, which though partially contemporary are quite distinct. They are:

The Buddhist style,
The Dravidian style, and
The Indo-Aryan style.

The name of the first explains its own origin; while the two latter are the result of Brahmanism, the name Dravidian being given to that which obtained in the south of the peninsula, and Indo-Aryan to that flourishing in the north.

A fourth style, somewhat resembling Dravidian, is to be found in the vales of Kashmir and the Punjab, but this is a mongrel one at best, which, being much influenced by Western art, should be studied separately in order to avoid confusion of the purer Hindu forms.

The Buddhist Style.

The history of Buddhist architecture in India begins with the birth of Sakya Muni, in 623 B. C., a prince of the house of Solar kings, who for two thousand years ruled over the dominions of Oude and the valley of the Ganges.

The early years of Sakya Muni's life were spent after the manner of most young Oriental princes of the blood; but, at the age of thirty-five, a reaction "wrought itself in his soul," and he retired from the world to a life of asceticism and peripatetic preaching, which resulted in the foundation of Buddhism.

It is sometimes a disputed point whether Sakya Muni (who is believed to have been the ninth incarnation of the Deity) was the original inventor of Buddhism, and as he has twelve hundred different names, the possibility of an error may pardonably be credited. However this may be, certain it is that he introduced the forms and modes of worship peculiar

to Buddhism, to which Buddhist architecture owes its existence.

Of the three forms of building belonging to Buddhist architecture, *topes*, *temples*, and *monasteries* monopolize our interest.

Topes.—The *topes* of India are classified by the natives into *stambas* and *dagobas*, which simplifies a somewhat ambiguous use of the term *tope* as employed by foreigners.

The *stambas* are commemorative pillars corresponding to the obelisks of Egypt, and may be either built or carved from a single stone, with much delicacy of thought and feeling. In form they are cylindrical, a circumstance which led a British officer to convert a valuable one discovered at Delhi into a steam-roller for the Benares road. A lion often crests the summit, and inscriptions and doctrines of the Buddhist creed ornament the shaft.

Dagobas are *topes* containing relic chambers (the name being derived from *dhatu* a relic, and *garba* a shrine), and are square, tumular, or cylindrical, surmounted by a dome.

No buildings are held in greater veneration by the faithful than the *dagobas* of India, since many contain a portion of the mortal remains of Sakya Muni or Buddha.

But architecturally they are only interesting from their peculiarity of arrangement, which consists of a series of mammoth cups laid one over the other, the intervening spaces being appropriated for gifts and sacred treasures, or festal pageants and parades of priests.

Temples or Chaityas.—Of the temples peculiar to

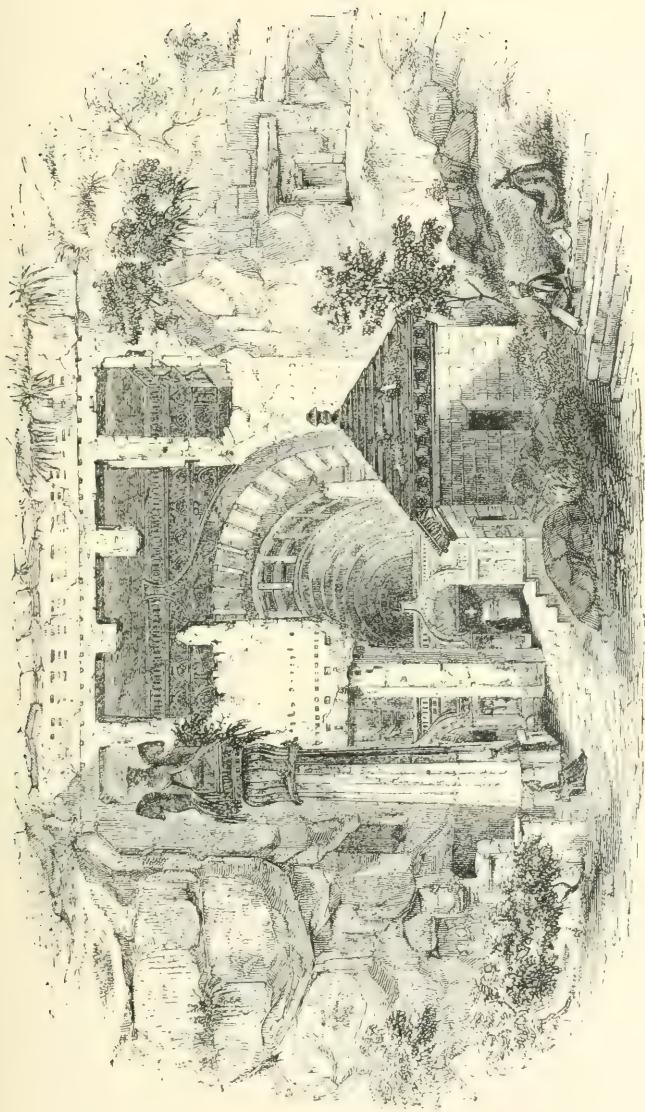


PLATE III.—Entrance to the Temple of Karli.

Buddhist architecture in India, all are rock cut like those of Ipsamboul, in Nubia (see page 21). The oldest and most celebrated is the Temple of Karli (Plate III), and a complete understanding of this cave of worship comprehends all the others.

It lies forty miles to the east of Bombay, perforating a precipice of amygdaloid trap rock containing agates, and burrows its way to a depth and width of one hundred and twenty by forty feet, thus covering a greater area than the Temple of Theseus at Athens.

The plan decomposes into a vestibule and large chamber. The chamber is trisected into a nave and adjacent aisles by means of carved columns crowned with capitals of kneeling elephants bearing sculptured figures on their backs, and the whole interior terminates in a semicircular apse. Floods on floods of yellow light, previously distilled through three windows of the façade, pour through an opening over the vestibule door, and break over the shrine standing at the back, which aureoled with trembling light gleams and glows like tissue gold. A roof semicircular in section bends above, ribbed with a decoration of wooden beams in pseudo-support (going far to prove that wooden construction preceded that of stone in India), and though somewhat low as a roof, still detracts but little from the solemnity of the whole.

Viharas or Monasteries.—The Viharas or homes of Buddhist anchorites are to be found in large numbers all over India, for the monks of Buddhism in early days far outnumbered those of Europe during the Middle Ages. The Viharas, like the temples, are hewn from the living rock, but differ more widely among themselves as regards architectural value.

This is especially noticeable when one compares the elaborate monasteries of the West with their hypostyle halls, their creamy carved columns, their treasures of painted ivory, moonstones, and jade; and the simple single cell of the ascetic in Bengal hollowed out of granite, and devoid of decoration save a slope-jambed door flanked by rude pilasters.

One of the more ambitious examples of the latter is in the Udyagiri. It is called the "tiger cave," from the fact that the rock façade is wrought in imitation of the head of that animal, the entrance being through the throat (see Fig. 16). Within all is sober simplicity, with never a trinket to turn the mind from abstract contemplation.



FIG. 16.—The Tiger Cave.

The caves of Ajunta best typify the *Viharas* of the West. All are excavated to admit a veranda, hall of columns, and ambulatory, round which are grouped the cells of the anchorites. At the back stands the shrine guarding some holy relic inclosed in sandalwood, or lacquer of powdered and mosaiced gold; while wall, column, and ceiling glow throughout with fresco or distemper of a warm contralto tone.

In later times the figures painted on the columns were carved in high relief, and these columns with

their bracket capitals and sculptured shafts (all similar, yet no two alike) became the feature of the whole, and lent to all the magic and the charm which belongs to beautiful things.

The Dravidian Style.

Dravidian (as before remarked) is the name given to that style developed solely by the Hindu religions in the southern part of the peninsula.

For, during the fifth, sixth, and seventh centuries, great disputes arose between the Buddhist and Hindu or Brahmanical religions, which ended in the entire expulsion of the Buddhists from the country, the sect of Jains being alone allowed to remain in certain districts, as the Mysore, probably on account of the similarity between their creed and that of the Vishnu sect. Indeed, during the middle of the fourteenth century these two became almost the same; the ninth Avator or incarnation of Vishnu being considered identical with Buddha himself.

On the other hand, the two sects of Siva and Vishnu are quite distinct, and, in a sense, antagonistic, for though the Purañās hold that Rama, Siva, and Vishnu are but different attributes of one god, the popular belief is that they are rival gods, and they are treated accordingly.

The forms of their temples, nevertheless, are exactly the same, with the exception of certain emblems and bas-reliefs of allegorical sculpture, wherefore they may be architecturally studied together without fear of confusion.

Every complete Dravidian temple consists of four principal parts:

1. The *pagoda* or *vimana*, containing the shrine in which the image of the god is placed.
2. The *mantapa* or *porch* leading into the shrine.
3. The *gopuras* or *gate pyramids*.
4. The *choultries* or *pillared halls*.

Besides these there are supplementary buildings for the use of the priests, also chapels, sanctuaries,

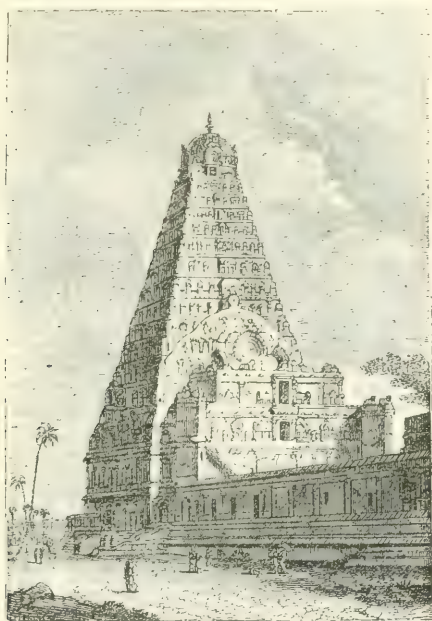


FIG. 17.—The pagoda or vimana of Tanjore.

water tanks and colonnades, which add a certain character and individuality to each.

The *pagoda* or *vimana* is the most important part of the temple, and consists of a granite cube without windows, surmounted by a mighty pyramid of stuc-

coed brick crested with a crown, the whole being covered with pilasters, niches, and statuary ranged in horizontal lines, together with bands of embossed copper. The vimanas of Madura and Tanjore (Fig. 17) are the best known, the latter rising two hundred feet into the air and dominating the landscape for miles around.

Though the words vimana and pagoda are interchangeable, the former term is the more distinctive, pagoda being sometimes used to designate an entire temple.

The *mantapa* or *porch* is a square building with either flat or pyramidal roof standing before the vimana, and perforated on each side by a door, one being used for entering the shrine and the other three for admitting light.

The roof when large is sometimes supported by columns; but the Hindu architects seem to have been singularly averse to using this simple and convenient method of support, preferring the employment of complicated brackets, cornices, and long beams of iron and wood. The reason of this is probably due to some rule laid down in the sacred books; for all Hindu architecture is guided by certain canons of art which are believed to have been handed down from the eight sons of Visvarkarma, the heavenly architect.

The vimana, with its porch, is usually surrounded by one or more cloistered colonnades, and the entrances to the courts thus formed are through the third division of this subject—namely, the *gopuras* or gate pyramids (Plate IV), which, though often of ill proportion, are in many cases the most striking

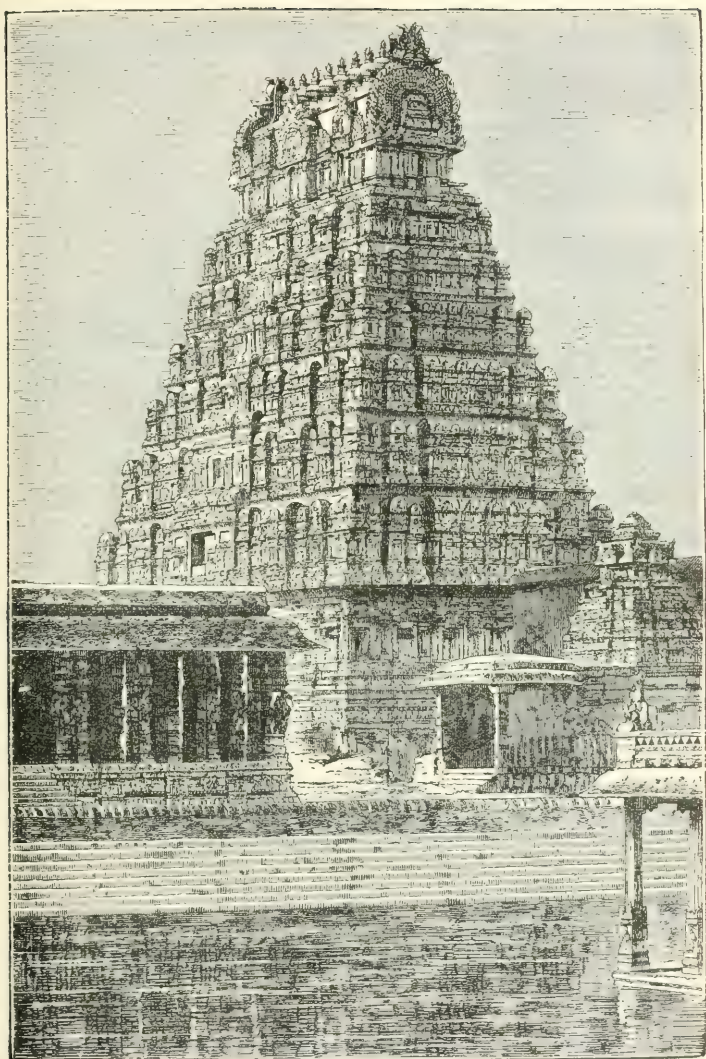


PLATE IV.—A gopura or gate pyramid.

feature of the whole. The bases of these Indian *arcs de triomphe* are invariably oblong in plan, and like the vimanas support brick and stucco pyramids, originally intended as fortifications over the door, but so incrustated are they with fantastic ornamentation that they appear rather like huge masses of white coral filigree.

The Hindus, like the Egyptians, delight in imposing hypostyle halls, which they call *choultries*. Of their various uses, Mr. Fergusson tells that "in ancient times they served as porches to temples; sometimes as halls of ceremony, where the dancing girls attached to the temples dance and sing; sometimes they are cloisters surrounding the whole area of the temple, at others swinging porches, where the gods enjoy at stated seasons that intellectual amusement. But by far the most important application is when used as nuptial halls, in which the mystic union of the male and female divinities is celebrated once a year."

One of the finest choultries of India is the pillared Hall of Chillumbaram (Plate V). It is distributed into five aisles by means of nearly a thousand columns, twenty feet in height, ostentatiously ornamented with sculptured gods and their animal incarnations or representatives, for every Hindu divinity has its representative (as the cow of Lakshmi, goddess of fortune, love, and temporal happiness; the elephant head of Ganecca, god of wisdom and cunning; or the fish of Vishnu); and this arrangement is of great artistic value to the ecclesiastical architecture of the country, from a decorative point of view.

All the aisles of the choultry at Chillumbaram are

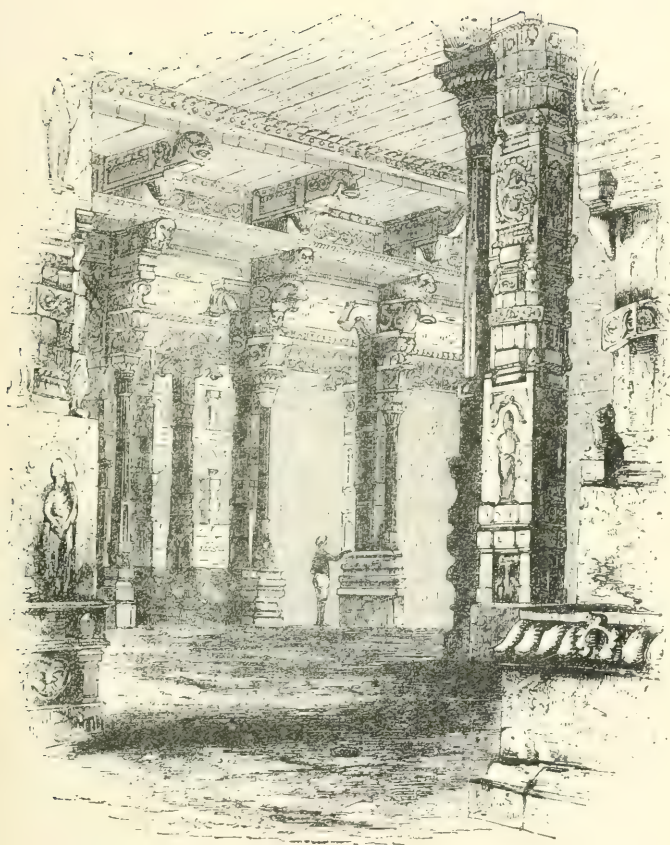


PLATE V.—The choultry at Chillumaram.

roofed with flat slabs of granite, a simple matter in the case of the side aisles, none of which are over six feet wide ; but, in order to accomplish the same thing in the middle aisle, which measures over twenty feet in width, a complicated system of bracketing is resorted to ; a clumsy expedient at best, but still more awkward when one thinks how easily the difficulty might have been overcome by a light springing arch.

Having examined the vimanas, porches, gate pyramids, and choultries we know the principal features of every Dravidian temple ; but, besides these, each temple is usually supplied with numerous supplementary buildings and minor temples dedicated to various gods : as Indra, god of the air and the thunder, who rides in a golden chariot drawn by blood-red horses with golden manes, “and hath hair like the plumes of the peacock” ; or Agni, god of fire, “who was found concealed in wood, and by friction induced to come out” ; or others of the three hundred and thirty million deities of the Hindu pantheon. And thus the general appearance of a large temple in southern India calls to mind Karnak, the Rhamesseum, and other great Egyptian fanes of the Theban period. But, on the other hand, it must be acknowledged that the comparison is not a flattering one to Egypt, for it requires little more than a glance at any Dravidian temple except Tanjore to perceive that there is no such thing as climax either in the distribution of the buildings or in their decorative treatment. Indeed, the gate pyramids are made so large and striking that they eliminate all dignity and importance from the pagodas, which contain the holy shrines ; while every fragment of surface is so fretted

and tormented with carving and stucco frippery as to give no rest whatever to the wearied eye.

One of the best examples of a complete southern temple stands at Tiruvalur, a plan of which (taken

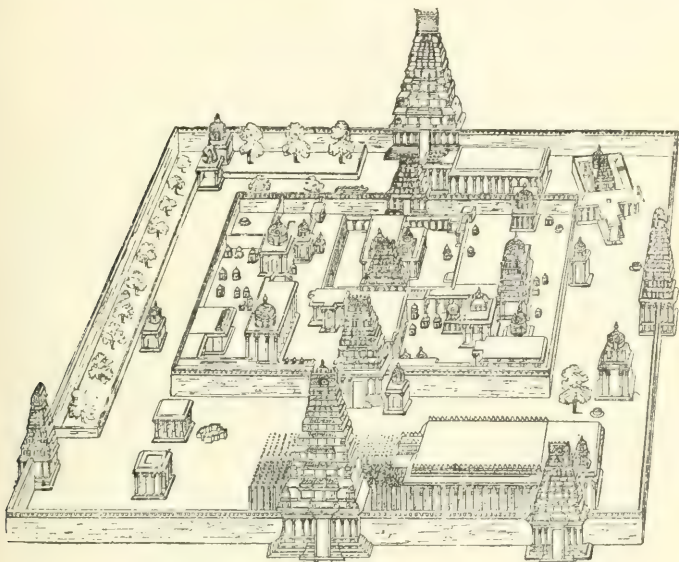


FIG. 18.—Temple at Tiruvalur.

from the essay of Ram Raz, the Hindu archæologist) appears in Fig. 18.

Before leaving the Dravidian style the rock-cut temples claim attention.

At Mahavellipore stands a collection of buildings which hold a sort of artistic transitional relation between the Buddhist rock-cut sanctuaries and the Dravidian fanes. These are monolithic temples in which an entire edifice is hewn out of a granite mountain

and left standing isolated. Each building is hollowed out within and sumptuously decorated without, a miracle of even Oriental patience. But of all the temples of India the most astonishing and unique are those at Ellora (Fig. 19), as containing all the glories

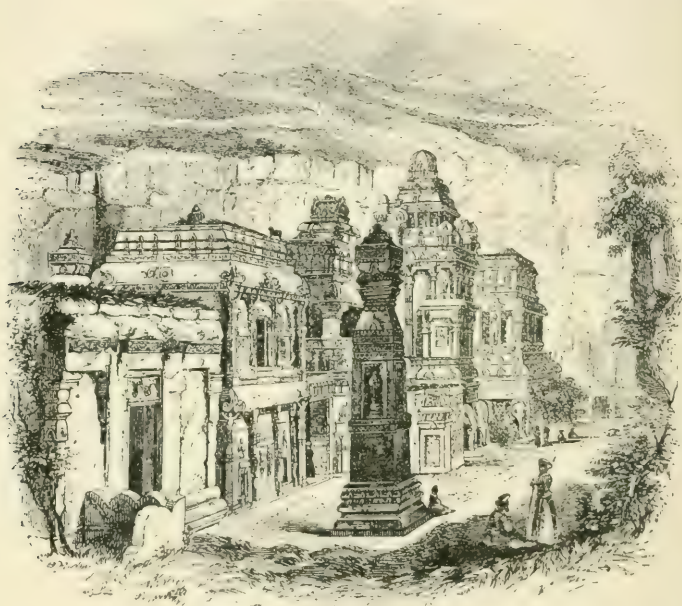


FIG. 19.—Temple at Ellora.

of Karli, Tanjore, and Mahavellipore in one. Here the entire main edifice has been carved from a single block of red granite by cutting a rectangular trench down through the slope of a mountain to a depth of one hundred feet and leaving a large mass of stone standing in the middle. This mass was then fashioned into a temple richly sculptured within and

without, and adorned with porticoes, chapels, and colonnades composed of piers representing lions, elephants, and other creatures more fantastic.

Around the perimeter of the encircling court formed by the trench (which is two hundred and seventy by one hundred and fifty feet) runs a cloistered peristyle, also excavated *vivo saxo*, from which extend many spurlike cells and six miles of subterranean galleries winding through the adjacent mountain side, which is well-nigh honeycombed with the windows and sculptured façades of countless sanctuaries. But the main feature of Ellora is the Kylasa or Paradise of Siva in the middle of the court. Its approach is through a propylæa, two bridges, a chapel, and a grand hall, the last leading into the sanctuary of the god. All about the sanctuary are terraces and minor chapels, and the whole is embroidered over within with a wealth of sculptured magnificence quite bewildering to the eye. Externally the same exuberance obtains, but more artistically distributed, and in a manner worthy of great praise in a country where a riot of carving without plain spaces to enhance it is held to be a true form of art.

Perhaps the greatest peculiarity of Ellora from an architectural point of view is the *unity of conception* prevailing throughout, as though one master mind had mapped out the whole stupendous idea in all its details before setting chisel to the work.

But in our admiration for this *tour de force* we must not imagine that it is, or ever can be, of practical value to the architect, for, as Tuckerman says: "Such methods are not possible in our day, nor if so

would they be desirable. . . . Architecture of this kind is scarcely more than *wholesale sculpture*, and as such can in no sense compare favourably with the grace of form and scientific construction which we see in the works of the Greek and Gothic artists."

The Indo-Aryan Style.

In northern India, just as in the south, the best specimens of Hindu architecture are among the temples. These are much simpler, since they dispense with the gate pyramids and *choultries*, substituting only an additional portico. They furthermore differ from the pagodas of the south in their profile and adornment; for, though both externally are pyramidal in shape, all Dravidian surfaces are flat and broken with *horizontal* lines of decoration; while the Indo-Aryan sanctuaries have convex surfaces, with *vertical* bands of ornament and perpendicular divisions.

No northern Hindu temple dates back further than the seventh century, and very few earlier than the year 1250, among which may be mentioned the temples of Juggernath, Barolli, Jajepur, and the Black Pagoda. Of these, the most perfect gem of the collection is the little Temple of Barolli (Fig. 20), situated in the silver silence and solitude of the Chumbul valley. Here, unlike so many of the southern temples, the sanctuary holds the climax and lifts high its graceful fretted dome over a pleasingly plain base, the latter being only broken to emphasize the lines above.

A pure white portico claims the middle distance, having simple shafts and bracket caps, yet flaming

all dishevelled above, in a riot of complex sculpture; while before all in the foreground stands another portico of the same (yet somewhat soberer) style, supplied with strong corners and well-distributed shadow, the two qualities so rare in modern architec-



FIG. 20.—Temple of Barolli.

ture. But the most successful feature of the whole is the arrangement of contrast between plainness and elaboration, without which neither is ever of the slightest value. This seems to have been the most difficult truth for all Orientals to grasp, and the

straightforward announcement of it at Barolli places this temple on a high plane of criticism among its fellows.

Cave temples were not so popular among the Brahmanists as among the Buddhists, and yet the Brahmanic fane in northern India, most widely talked of by foreigners, belongs to this class—namely, Elephanta. This temple lies in the harbour of Bombay on the Island of Elephanta, so called from the discovery of a huge elephant hewn from a single rock standing near the landing place. Deep into the bowels of the earth it tunnels to a depth of one hundred and thirty feet, having a breadth of one hundred and twenty-three, and is divided into three aisles by colonnades, thus resembling a Roman basilica. The columns are somewhat squat and thick; but this is to be expected when one bears in mind that they support the weight of an entire superincumbent mountain. Round about the walls are pilasters and huge niches containing mythological sculpture of various kinds, notably representations of Rama, Siva and Vishnu, and Viraj, the double deity, half male, half female, all well carved and of decorative value.

Having been much mutilated by the Portuguese, the Temple of Garapori or Elephanta has long ago ceased to be used by the priests for holding religious services; but it is still popular with childless young wives, who repair thither in large numbers to pray for offspring. From the critical point of view, it is a feat of *engineering* rather than an *architectural* achievement; and, as such, should be estimated from the engineering standpoint; but when contrasted with

Ellora, which is both, it must be acknowledged that the northern temple loses by comparison.

During the Middle Ages, Mohammedan architecture found its way into India with the conquerors, and many beautiful buildings were the direct result.

But these belong rather to Saracenic art, and may be more profitably studied in a subsequent chapter.

INDO-CHINA.

Indo-China is the next country which naturally presents itself for architectural study after India; not from the point of view of evolution, but from that of collateral development. For no building of India has yet been discovered antedating the year 250 B. C., and Buddhism (with its usual architectural incubation) was introduced into Indo-China only seven years after that date by Rahaman, the son of Asoka.

From the above it must not be inferred that Indo-China was at all destitute of native architecture before the arrival of Rahaman; for of this there was probably an abundance; but none of it was ever framed in more enduring material than wood, and hence (with the exception of Buddhist temples and topes) there is no proof to-day of a distinct style having existed at a remote period save by inference from modern work.

Turning, therefore, to the Buddhist monuments of the country, one finds a number of sthambas and dagobas (called indiscriminately pagodas by the foreigners) scattered in many places through Burmah and Siam. All follow pretty much the same pattern, and consist of a conelike structure rising from two or more terraces, and terminating in a sort of spire

technically termed a *tee*. Many are polygonal in plan at the base and become circular in the ascent, as the Shoëmadoo pagoda (Fig. 21) (the greatest in Burmah),



FIG. 21.—The pagoda of Shoëmadoo.

and many are surrounded by a double row of either sthambas or miniature pagodas.

Shoëdagong, at Rangoon, and Khomado, on the Irrawaddy, are the best known after the above mentioned. All three are of stone, and with others of their kind are the only structures in Burmah of that material, it having been enforced by law that no building be erected either in brick or stone, save for religious purposes or royal palaces.

In Siam, where the taste is more extravagant than in Burmah, the dagoba spires are incrustated with bright bits of broken pottery set in plaster which at a distance do duty for sculpture.

Domestic dwellings are built upon bamboo piles or floating rafts, with siding of teak wood or atap-leaf, and, as a rule, are of one story only, since it is held an indignity to allow a man to walk over one's head.

Palaces are composed of brick and stucco ostentatiously painted and gilded. But European taste and ideas have now begun greatly to prevail, and the three-story royal palace at Bangkok, designed by an Englishman, has elicited the admiration and imitation it so richly deserves. In it the French Renaissance style has been followed and a beautiful loggia has been drawn through the centre, while a bit of local colour is woven over the whole by means of a roof, treated after the gay Siamese fashion (Plate VI).

Extravagance of taste in Siam reaches its culmination in the *wats* or temples, which consist of peristyle buildings smeared over with gilded plaster, and corrugated with bits of coloured crystal. The floors are tapestried with silver wire or paved with chiselled brass; and the doors, inlaid with mother-of-pearl, glow like heated opal, while from the gold and crimson rafters of the ceiling often hang a stalactite forest of floral foliage worked in porcelain.

There is a certain efficient effrontery about all this medley of glare, but it is not architecture; it is rather wholesale *jewelry*, and imitation jewelry at that; nor can it claim the archæological interest at-

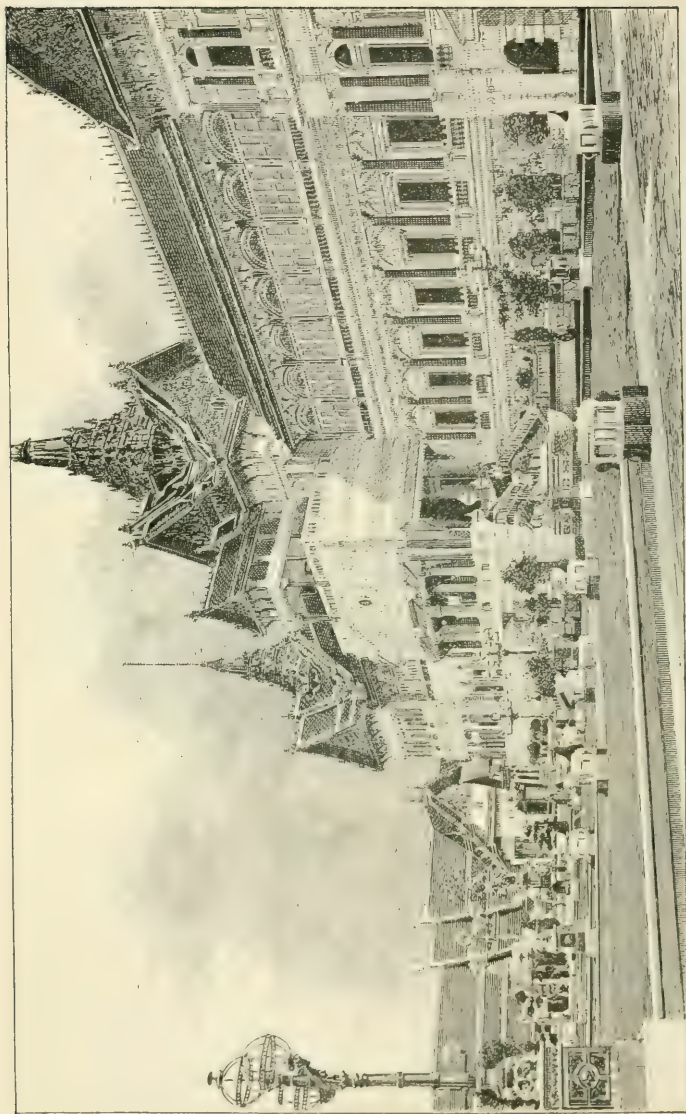


PLATE VI.—Palace at Bangkok.

taching to antiquity, there being few buildings in Siam dating more than a hundred years ago.

In Cambodia, however, one finds the remnants of a civilization which can claim both antiquity and a certain amount of architectural interest.

Of these remnants nothing but ruins now remain, yet among the temples of Angkor (*circa* 5 A. D.) the residuum is sufficient wherewith to form a fair idea. The material employed was sun-dried brick baked in blocks fifteen feet long and nine feet wide. Terraces, covering several acres, rose above the river bed, and, octopuslike, stretched forth bridges to either shore. These bridges were many hundred yards in length and were bordered with parapets of hydra-headed dragons, supported at intervals by grotesque statues.

Scores of domical towers, terminating in *tees*, bristled into an eccentric sky line, sculptured all over, and frequently embossed with colossal human heads, as in the forty-two towers of Angkor-Baion (Plate VII).

A long line of loggias usually ran round the exterior, belting in an entire collection of temple buildings, all of which were linked together by stone passages accentuated at intervals by lions and Laërnian monsters.

Windows were square, crossbarred with stone, and doors were triumphal arches topped with fantastic towers; while piers, tall, lithe, and straight, curved into capitals plumed with petrified leafage, wedding a certain dignity with grace.

And yet with all this patient pursuance after effect, the Western mind instinctively balks at accepting so much elaboration without adequate cause, and it must



PLATE VII.—The towers of Angkor-Baion.

be acknowledged that the multiplicity of spiky towers suggests a circus where it should suggest a temple, and advertisement rather than magnificence.

JAVA.

With Brahmanism and Buddhism Javanese architecture began, and with Brahmanism and Buddhism it ended. For after the Moslem invasion in the fifteenth century architecture practically ceased, and little or nothing remains save ruins, and *they* are comparatively few.

These ruins are divided into three principal groups situated at Gumong Prau, Brabanum, and Boro-Buddor, and as monuments of patience may almost be compared to those of Egypt.

Boro-Buddor (or Great Buddha) is the most important of the three. It is also the most extraordinary building in Java, and, so far as is generally known, the most elaborately decorated in the world. Not that this need give it a very high place in architecture, for decoration brings the responsibility of distribution, one of the most difficult problems of the profession; but it holds the foremost position in Javanese art, and so warrants a word of description.

Here eight tiers of terraces rise one above the other pyramidally, the lower five being bound round the edges with endless chains of buildings and bas-reliefs—the buildings flaming into fantastic spires—and cupolas. The principal cupolas cover four hundred and thirty-six niches, and each niche encircles a contemplative statue of Buddha facing outward. The backs of all these buildings are even more elab-

orately sculptured than their façades, and are fairly incrustated with tangles of elaboration; while the three upper terraces bubble all around with domes which bend above some seventy-two more statues of the divinity.

A long bracelet of bas-reliefs clasps the whole collection of buildings at the base, which is sixteen hundred feet in circumference, and the whole bewildering mass is surmounted by a pagoda rising altogether one hundred feet into the air.

With all this patient preparation, however, the result is neither felicitous nor effectual. Smothered in carving and fortuitous frippery it loses the calm dignity and stability which its size and shape might otherwise command, and, eschewing the purity of outline which makes Greek art the precious possession of all ages, indulges instead in a filigree fussiness at variance with all sound judgment and pure taste.

CHAPTER III: EASTERN ASIA.

INTRODUCTION.

CHINA, Corea, and Japan form not only an art group distinct from the rest of the world, but also an art sequence. For China taught Corea, and Corea Japan, with the result that in each case the pupil outstripped the master.

It must not be understood, however, that Corea and Japan are without native styles of their own. But the introduction of Buddhism successively into the Hermit Kingdom and Mikado's empire brought with it a vast quantity of Chinese architectural material, which became more and more refined and idealized in its progress eastward, until it reached perihelion in Japan.

CHINA.

That the Chinese are better engineers than architects is shown in the ramparts surrounding their cities, their bridges, and the Great Wall, which contains sufficient material (it is said) to span the world twice with a bulwark six feet high and two feet in thickness.

Indeed, no nation understands the quarrying, cutting, and adjustment of granite more thoroughly than the Chinese, and in this they bear agreeable com-

parison with the Russians of to-day and the Egyptians of ancient time.

This facility is doubtless the result of long, despotic, and vigorous training, for a legend relates that a mason employed upon the Great Wall was put to death, because certain joints between the stones of *his* portion of the work were left wide enough to admit the insertion of a nail.

Notwithstanding the Chinese facility in handling stone, the majority of Mongolian buildings are of wood, on account of the well-founded fear of earthquakes; and, after wood, brick (often overlaid with porcelain) is the most popular material.

Owing to the perishable quality and brittleness of these substances China has few of those great historic monuments by which one may read the tale of a nation's evolution; a condition further aggravated by the Emperor Tsin-Chi-Hoang-Ti, who in 246 B. C. wilfully ordered the destruction of all important buildings constructed before his ascent of the throne, thus cutting off all connection with the early architectural past of the country, save that of tradition. But fortunately tradition is stronger in China than in any other country on the globe, save Corea and Japan, and so rigid and unbending are the laws and rules of Celestial architecture, that to study the Chinese building art of to-day is to study that of all time.

The primitive type from which all houses of the Flowery Kingdom must have sprung was the *tent*; and the most cursory glance at a Chinese city supplies the ocular proof.

Even palaces are little more than an agglomera-

tion of wooden tents; while the pagodas resemble a series of tents piled one upon the other.

Besides the generative tent, religion has helped to mould the building art in China, as it has in all other countries. The beliefs most generally accepted are Buddhism, Confucianism, and that of the followers of Laou-Tse or Tauism (from Tao—Supreme Wisdom). Of these religions or philosophies, Buddhism has most affected the architecture by introducing pagodas, the finest monumental objects of the land.

Christianity also exists to a certain extent, but has not impressed the architecture, save in certain missionary churches of the interior, where the stained glass windows represent the Saviour dressed in Chinese costume and wearing a pigtail. For the average Chinaman can never bring himself to worship one whose image recalls a *foreign devil*, which complimentary epithet he applies to all Europeans and Americans indiscriminately.

Domestic Architecture and Palaces.

The domestic dwellings of Ta-Tsing-Kwo, or the Empire of Great Purity, as the reigning family love to call their land, are, externally, dingy in the extreme; but the interior walls and courtyards are much gayer, and are illumined by brightly coloured tiles and painted and gilded woods; while the inner portions of the houses of the wealthy are often encrusted with ivory, copper, and mother-of-pearl. But this kind of elegance is confined to the houses of the Mandarins and rich retired pawnbrokers, and is rather the exception than the rule.

All Chinese houses, however, share in simplicity

of construction and certain other features which may be enumerated as follows: Shops and dwellings are seldom over one or two stories; *extent* being considered of more importance than height; roofs are sustained by wooden or granite posts, and strengthened by transverse beams; friezes are filled with open-work carving, and all framework and roofing are completed before the sides are filled in.

Plate glass has been only recently introduced into China, and is almost unknown in the south. Hence windows do not play the same important part as in our own exteriors. Their duty is performed by window-doors, two or three feet wide, glazed with oiled paper and extending from ground to roof in one-story dwellings, or the height of each story in houses of greater pretension. These buildings are likewise provided with verandas or *loggias* of the kind familiar to every traveller who drives along the Nanking road toward the Bubbling Well in Shanghai.

The most imposing features of every Chinese house are the *doorway* and *roof*.

The doorway is chiefly noticeable for its brilliant tinctures of illumination and elaborate carving of dragons or other monstrosities upon lintel and jamb; but to its roofs, the architecture of the Middle Kingdom owes almost its entire claim to beauty. Nearly all roofs are composed of tile, are hipped and concave in shape, and bent up at the corners in the manner peculiar to eastern Asia. Sometimes this folding up of the edge is carried out in the middle of the side as well, giving an impression of festooned eaves.

Chimneys being a rarity, and practically unknown in the south, the roof depends for its ornamental

decoration on the treatment of the ridge and ribs, which are therefore elaborately carved, to an extent uncouth to the Western eye; but, on the whole, Chinese roofs are pleasing, and do much to relieve monotony in the landscape. No attempt is ever made to crown the posts or columns with capitals, and the other beams are rarely squared or carved, but left round.

Most northern Chinese houses are heated by means of a *kang* or bench of stone masonry, beneath which is a tortuous flue from the kitchen fire-place. On this warm bench the family sits by day and sleeps at night, thus making one fire supply heat for the whole household, and economizing fuel.

In southern China braziers are popularly used for cooking, and are sometimes employed instead of a *kang* in the north during the summer months.

Such are the principal features of domestic dwellings in the Celestial Empire, while the palaces are simply a collection of such buildings, interspersed with gateways, and courtyards adorned with mazy labyrinths of rock-work. Even the "Great Unseen," the Emperor of China, and "Heaven's Vicegerent here below," before whose very clothes and furniture the Mandarins prostrate themselves as before something holy—even *he* dwells in a collection of sheds of this kind, with little to distinguish it save area and extent.

How great a boon a large extent of space and breathing room is, can only be appreciated by those who have lived in the filth and squalor of a Chinese city like Canton, Shanghai, or Peking, where the majority of streets never exceed seven feet in width,

and where a reeking, seething mass of humanity, infested with noisome vermin, herd together in ill-smelling kraals, and drag out lives of dull torture, relieved only by occasional drunkenness on opium.

Pagodas.

The most characteristic features of every Chinese landscape are the pagodas, so called from the Hindustani word *Poutkhoda*, meaning the "house of idols," or the "abode of God." Superstitious natives believe that pagodas exert a fertilizing influence upon the surrounding soil, and affect the fall of rain for as far as the eye can discern their pointed tops. Hence, tall pagodas are in great requisition.

These minarets of old Cathay consist of octagonal towers three to nine stories in height, tapering toward the top and terminating in a point. Each story is provided with a veranda and each veranda with a tiled roof.

Red is the prevailing colour of all religious buildings, and hence of pagodas. The use of red as a religious colour was doubtless derived from India, where to this day the natives sprinkle their clothes with vermilion powder or paint at certain religious festivals.

In some cases the materials composing pagodas are of such richness that paint is practically dispensed with. A good example of this is the porcelain tower of Nanking (Fig. 22), erected between 1412 and 1431 to an empress of the Ming dynasty, but destroyed during the Taiping rebellion.

This pagoda is said to have been the finest ever erected in China: it rose two hundred and thirty-six

feet in height, was divided into nine stories, and was covered entirely with porcelain. From each angle of the several roofs depended a bell; while chains festooned from the spire, and embellished in like man-

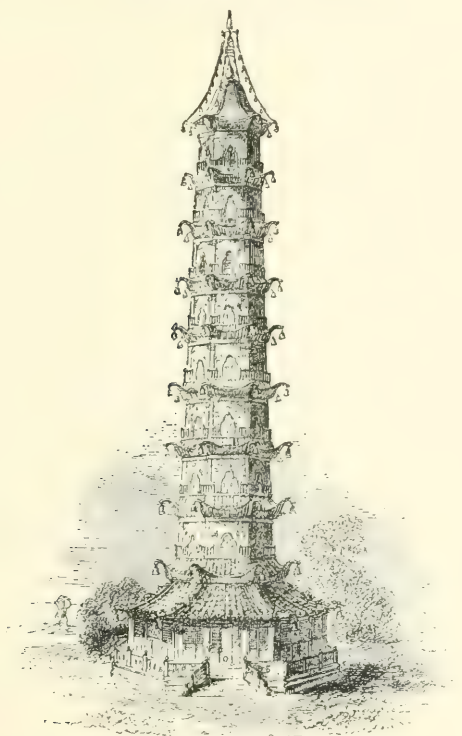


FIG. 22.—Porcelain tower of Nanking.

ner, made a chime of twelve dozen in all, which tinkled pleasantly in the soft breezes that spring up after sunset in those latitudes.

Besides octagonal pagodas there are some few

square in shape, as the one at Tsing-Poo ; but these are only interesting from having furnished the model for the minarets of Corea and Japan.

Pai-Loos and Pai-Fongs.

After pagodas the most purely national architectural objects in China are the *pai-loos*.

They consist of four uprights with one or more horizontal beams mortised into them, and surmounted by a tiled roof, thus forming a species of triumphal arch.

Foreigners have been criticised for calling *pai-loos* "triumphal arches," since they are used for the most part as memorials to statesmen, public benefactors, or other persons of distinction. Nevertheless, *pai-loos* are sometimes employed to record a military triumph, as the one erected at Canton commemorating the great defeat of the English by the Chinese.

Most *pai-loos* are made of granite, though marble is used in the north, and all are elaborately carved and adorned with tablets setting forth their *raison d'être* in the decorative Chinese characters. A fine specimen, bold in execution, spans the highway of Amoy (Fig. 23).

Roof tiles are emblazoned with almost every colour save yellow, which is the imperial shade ; its use on the house of a private citizen or any other than the emperor being a capital offence. Indeed, there is a species of architectural police over all buildings, who regulate the size and appointments according as the owner is a royalty or prince of the first, second, or third degree, a mandarin, grandee, citizen, or coolie.

Pai-fongs are *pai-loos* dedicated to women of noble character, or to show respect to the memory of one's mother. They are also erected to widows who have not married a second time, or virgins who have died without entering the matrimonial state. *Pai-fongs* differ from *pai-loos* in having only one arch instead of

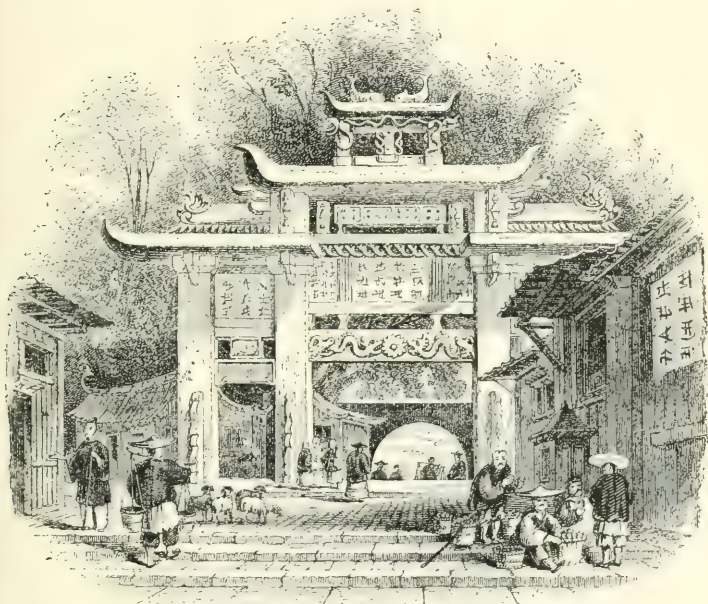


FIG. 23.—Pai-loo at Amoy.

three, and are less elaborately adorned. Both are probably evolutions from the Tartar "red-arrow gates" found in their most primitive form in Corea; though an effort has been made to trace their origin to Indo-China and India.

Temples and Tombs.

The temples of China, whether Buddhist, Tauist, or Confucian, differ little from the palaces and private dwellings of the rich, and for the most part display little magnificence; but there are some notable exceptions to the rule, as the Wan-Sheu-Shan near the Peking Summer Palace, which is composed almost entirely of coloured majolica and loaded with Buddhist sculptures, while another near it is cast in bronze of exquisite workmanship. A labyrinthine rockery like those of Mandarin clubs and palaces adorns the temple gardens; but otherwise little effort is made toward landscape gardening or otherwise providing a suitable setting.

Besides the orthodox temples, there is another species known as *imperial temples*, where the Emperor officiates in his rôle of high pontiff. Their services are neither Buddhist, Confucian, nor Tauist, and are not held oftener than once or twice a year. There is also a more esoteric purity in their ritual, since prayer and sacrifice are offered to thoughts and ideals expressed upon printed tablets hanging round about instead of to images, lest the worship degenerate into material idolatry.

The *shang-ti* or tablet to the *Supreme Lord*, and the tablets dedicated to the deceased emperors, are among the most popular; and to these the Lord of Cathay offers incense and fire. "To Heaven alone is offered a piece of blue jade, a thing formerly used as a symbol of authority."

Of all imperial temples the one known as the Temple of Heaven (Plate VIII) has acquired the



PLATE VIII.—The Temple of Heaven.

greatest modern repute. Though recently burned, its ruins may still be seen near Peking, enclosed in a beautiful garden four miles in circumference.

Unlike other Chinese temples it is composed of only two buildings, called the South Altar and the North Altar.

The first rests upon three circular terraces, each ascended by four flights of steps, and is hypæthral or left open to the sky for purposes of sacrifice.

The North Altar, as though to make up for the lack of covering in its neighbour, has two roofs, one above the other, each encrusted with tiles of ultramarine blue. Its shape is circular, and (before the fire) the walls were fretted with carvings and the windows were webbed with eccentric latticework. Terraces and imposing stairways afforded opportunities for the processions, dancing, and music which accompanied the ceremonies, and the whole building rose ninety-nine feet in the air, a stupendous height in China.

Within there was little save the altar to Shang-ti and a certain reckless use of red; but the general effect was brilliant in the extreme.

Tombs.—We have now touched upon all the various kinds of buildings in Cathay except the Chinaman's last habitation, and in this he shows himself both more and less architectural than in any other direction.

The more important of the tombs consist of horseshoe-shaped walls of granite or marble set upon terraces, approached by flights of steps, and pierced with a door leading into a vault (Fig. 24). The vault is underground, as a rule, for the entire affair

is usually cut into the slope of a hill. But when this is not the case and the tomb is reared upon the plain, the whole conception becomes illogical, and an other-

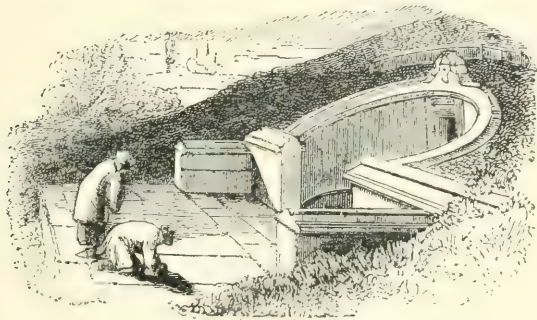


FIG. 24.—Chinese tomb.

wise dignified architectural object appears awkward and insignificant.

The tombs of the Ming emperors are preceded by temples, altars, triumphal arches, and long avenues flanked by statues of men and animals; but the last resting places of the lower orders of society can scarcely be classed under the head of architecture, and consist of huge stone masses resembling palanquins and moulded into eccentric shapes, which, if allegorical to the Oriental mind, convey nothing to the Westerner or European.

COREA.*

Corea, like China, has, properly speaking, little architectural history, but is interesting as the ar-

* In compiling the present sketch the writer is greatly indebted to Mr. Percival Lowell, whose thorough knowledge of Corean matters is so well known throughout the far East.

tistic hyphen between the Flowery Kingdom and Japan. This lack of history is partly due to the perishable quality of her building materials, and partly to the want of a religion, the prime factor in the creation of monumental work.

Corea lost its religion through a caprice. During the Japanese invasion of 1598 a number of the Mikado's forces disguised themselves in the broad-brimmed hats of Buddhist priests and so obtained admission to the city. After which the Corean king decreed that no priest should ever set foot within the gates of a walled city again.

Buddhism, being thus banished from the towns, took refuge in the country monasteries; but these, from their remoteness, soon lost popularity with the rich, and fell gradually into disfavour, until to-day they are indeed few; and what still remains of religion for the Corean has dwindled into a few superstitions and a mild form of Confucian philosophy.

Hence nearly all traces of religious architecture have vanished, and to-day there is only one single pagoda throughout the entire capital of Seoul, and that is left neglected in the back yard of an irreverent citizen.

Investigation is thus reduced to palaces and dwellings, and these, being of wood and paper, must be further limited to dwellings of the present day. But Corea, like China, has been very careful to preserve the *traditions* of her building art, and so one is quite safe in assuming the present houses of Seoul, Chemulpo, Gensan, and other cities to be almost identical with those of the thirteenth, fourteenth, and fifteenth centuries, or even earlier.

Domestic Architecture.

The domestic architecture of the Hermit Kingdom is exactly what one would expect in a country, spiritless and unambitious, which has devoted its entire time to scraping together sufficient tribute in order to be let alone. That is to say, the king and Government officials are decently lodged and the poor live in hovels.

Indeed, the *law* allows no man save the king to expend over one thousand dollars upon his house. In royal palaces alone is paint permitted to be employed, and the use of round columns instead of square posts is a privilege likewise arrogated by royalty, the circle being considered the more perfect form. The last consideration is forgot when it becomes a question of the rafters, all of which in the king's palace are square, while in the houses of the people they are round.

These and myriad other restrictions binding all non-royal architecture, magnificence is perforce not denoted so much by artistic beauty and extent as by multiplicity of approaches.

The first feature to be met in the residence of an ordinary high-class official is the red-arrow gate, a sort of rude triumphal arch, which, as hinted before, is of purely Tartar origin and little changed from its primitive form. It consists of two tall uprights bound together by two horizontal crosspieces, pierced vertically by a number of slim shafts or arrows. Two spirals so twined together as to fill the area of a circle and placed at the middle of the upper crosspiece form the only decoration, a thing held in great veneration,

first, as representing the positive and negative essences of Confucian philosophy, and, second, as the device or armorial bearing of the nation.

After the red-arrow gate, the visitor approaches the gate proper or *mun* (called *mon* in Japanese), which glories in some fanciful name, as "Gate of Extensive Wisdom," "Gate of Virtuous Contentment," etc. This portal resembles the walled entrances of Tien-Tsin and other Chinese cities, and, like them, consists of a doorway piercing a wall and surmounted by a house, looking as though the lodger objected to the *rez-de-chaussée*, and had hoisted his entire house higher up and well out of the damp.

This pavilion or kiosk, which is used for a band of music when the owner can afford such luxuries, is open on four sides and surmounted by a beautiful roof of tiles, festooned at the corners and sides and graceful in the extreme. It is in these roofs that the Koreans far excel their teachers the Chinese, and it is to Korean taste in this direction that we owe so much that is beautiful in Japan.

The gate or *mun* opens on an enclosure, which contains another enclosure, which encircles still a third, and so on to any number, according to the wealth of the owner, until at last one arrives at the house.

Three steps lead to the top of the sill or foundation, which is of stone and girt about with a veranda, the use of any more than three steps by any mortal not royal being a cause for decapitation.

This stone foundation is more than it appears at first sight, as it is used for warming the house. A fire is built in an outdoor fireplace at the side, and the

smoke and hot air, passing through a series of tortuous flues, warms the floor of the building.

The theory of this arrangement is that the feet will thus be kept warm while the head remains cool. But unfortunately the *practical* working is not so felicitous, for it requires a long time to properly heat the slab, and when once this has been accomplished the temperature often rises so quickly that the occupant of the room is well-nigh roasted. However, layers of earth and oiled paper somewhat temper the severity.

The whole is an invention of the Chinese, and was introduced into the Hermit Kingdom about 1736 A. D.

Above the veranda and furnace rises the house, one story in height, and composed entirely of wood and paper. The bones of the structure, so to speak, are a number of strong posts supporting the plate and roof rafters. Between the posts are folding doors panelled with ornate lattice work, which in summer may be unhinged and triced up to the ceiling.

This arrangement is usually confined to tea houses, restaurants, and dining rooms.

Inside of the outer walls or doors are two rows of oiled-paper sliding screens, a green one for night, and a white one for day. Over all stretches the many-gabled and tiled roof, laid in black mud planted with seeds. The seeds take root and spring up in summer, covering the whole with splashes of warm green verdure.

The interiors of Korean dwellings are always declared by their exterior, as in the Gothic style. Thus, if there are two rooms in a house, the fact is duly

registered on the outside by two separate roofs, so that a large mansion is simply a collection of small houses, each having one room, and joined to one another by covered corridors; while a palace suggests a complicated city interspersed with beautiful gardens. This especially is true of the old palace of Seoul, built about 1386 A. D., and still in good preservation, and even more true of the so-called new palace, erected one hundred years later, whose beautiful grounds, spangled with lotus ponds, cover an area of one thousand acres. The similarity to a city is still further accentuated by the fact that several hundred court ladies reside within the palace enclosure, each having her own house with its many ceremonial approaches.

Such is the architecture of Corea *en gros*, while as regards furniture, there is little throughout the country which is worthy of the name.

A wadded quilt to sit upon, a table one foot high, a cupboard, a screen, a picture or painted panel—these constitute the entire furniture and decoration of a room, whether in city or country, in palace or in hovel.

On the walls, floor, and ceiling one never sees anything but oiled paper. True, now and again appear one of those rare bits of pottery for which during the sixteenth century the Coreans were famous throughout all the Eastern World, and then these monotonous surroundings seem the only fit settings for such ceramic jewels; but for the most part interior beauty and elegance are neglected, taste is forgotten, and ambition is lulled to slumber in the "Land of the Morning Calm."

JAPAN.

History.—The official records concerning Japanese architecture, dating before 700 B. C., are so meagre that little can be said authoritatively concerning the origin of the native style.

Nevertheless everything seems to point to that origin having been a *wooden* one.

Thus, the oldest chronicle so far unearthed tells how Tsokina Hono-Mikkoto and his younger brother cut down trees and built themselves a *wooden* palace in the reign of Amatsu Hikkodate-no-Mikkoto, and other records of somewhat later date treat the matter of house building as though the wooden method were the only one.

But whatever the origin of *prehistoric* architecture among the Japanese, certain it is that the native style * of to-day, as well as that of all *historical* times, has been derived from the huts of the Ainos, or half-savage aboriginal race, who now only inhabit the island of Yezo.

This nation bears very much the same political relation to the Japanese as the North American Indians do to the people of the United States. In civilization, however, they have made even less advancement, save in politeness, and their dwellings of to-day are almost identical with those of twenty-five hundred years ago. These dwellings or huts in early times resembled a triangular prism, being built without vertical walls. They consisted of two pairs of

* The expression native style is used here in contradistinction to the Buddhist style, brought into the country by the Coreans.

young trees with ends crossed and tied firmly at their intersections to a horizontal beam or ridge pole, by strong wistaria roots (*fugi*). The ends rested on the ground, and the whole was thatched with reeds or straw. Later this hut was used only as a roof and vertical walls were added by means of uprights, the interspaces being filled in with coarse matting.

Reliable information concerning Japanese building art begins with the reign of Jimmu Tenno, who ascended the throne in 660 B. C., and is believed to have been the first human ruler of Nippon, which, according to tradition, had formerly been governed by Shinto gods. During his reign an imperial palace was built as well as a Shinto shrine, and these gave the mode until about 201 A. D., when the Empress-Dowager Jingo-Kogo, the Semiramis or Catharine of the far East, donned male attire and conquered Corea.

From this time Corea became to Japan what Greece was to Rome both in science and in art; but its real influence did not begin until 522 A. D., when Buddhism was first introduced into the country.

From that date began the great fusion not only of the Buddhist religion with the Shinto cult, but also of the Buddhist architecture with the Japanese native style, which mingling continued until the end of the sixth century.

During the early part of the succeeding century a perfect *furore* for everything Corean swept over the land, and artists, architects, artisans, workers in metal and textile fabrics, wood carvers, and ceramic experts from the Hermit Kingdom swarmed over the empire. But in the period from 673 to 689 A. D., under the Em-

peror Temmu, a pause ensued, in which importation ceased and assimilation continued. Architectural features which had entered the country uncompromisingly Chinese or Korean in character lost their original appearance and, being amalgamated, took on a refinement and elegance quite new and entirely their own; Hida-no-Takumi introduced symmetry, and a steady advance toward purity of taste followed. This continued, with some slight interruptions, until 1616 A.D., when the climax was reached in the temples of the Tokugawa at Nikko, the masterpieces of Japan (see Plate XII).

Since 1870 the inroad of Europeans and Western travellers has begun to tell architecturally upon the Land of the Rising Sun by introducing what is locally termed the "foreign style," doubtless, as some one has remarked, "because foreign to all known styles of architecture." But, as Mr. Chamberlain put it, "we can not, with any grace, blame a nation whom we ourselves have misled," and "if Japan's contemporary efforts in architecture are worse even than ours, it is chiefly because her people have less money to dispose of."

Domestic Dwellings.

Japanese buildings may be broadly divided into domestic dwellings, palaces, castles, *yashiki*, and ecclesiastical edifices.

Of these, the domestic dwellings are the simplest, being derived directly from the hut of the Ainos, and consist for the most part of vertical beams resting upon stones and mortised to horizontal beams, carrying a heavy roof, thatched, shingled, or tiled. There

are no permanent walls, as a rule, the sides being composed in winter of *amado*, or wooden sliding screens, capable of being folded up and packed away, and in summer of *shoji*, or oiled-paper slides, translucent, but not transparent. Thus in warm weather all the sides of the house may be removed, and the whole thrown open for air and ventilation.

Houses of the better class have *both* wooden and oiled-paper slides all the year round, the former for night, the latter for day; and the intermediate space is employed as a veranda or vestibule, called *genka*.

No permanent partitions cut up the interior, but paper screens sliding in grooves divide the space according to the number of rooms required. If a house has a second floor, it generally covers only a portion of the lower story, and is reached by a flight of very steep steps. The most striking feature of all Japanese interiors is the total absence of furniture. Neither tables, chairs, beds, nor washing stands appear, the reasons being that tables and chairs are scarcely ever used; that the *futan*, or bed, consists of a thick soft quilt, which is always rolled up and stowed away in a cupboard during the day; while the washing stand is almost superfluous in a country where the commonest laborer often takes five baths in a day, and would die of shame if he bathed less than three times *per diem*. Ewers, it is true, are used for the hands and head if there is no time for a whole bath, but, like the bed, are concealed in a cupboard, so that the general appearance of a bedroom is somewhat bare. To counterbalance the lack of furniture, however, it is only fair to say that all the interior woodwork is exquisitely grained, that the floors are

either finely polished or beautifully lacquered, that soft silken cushions supply the need of chairs, and that *ramma*, or carved ornamental friezes, recalling the work of Squarcione, of Padua, give a refined finish to the whole.

In every house an alcove is built as a seat for the Mikado should he ever deign to visit the house. Such a visit naturally does not occur in more than one case out of a million, but the alcove nevertheless is always built, and in it is placed a rare bit of pottery or a painted screen, which is usually the one ornamental feature of the room. This one adornment is changed by the owner every day when he can afford such luxury; but the mass of his treasures is kept out of sight in a fireproof building at the back, known as a *godown*,* for it is considered the height of vulgarity to spread one's valuables ostentatiously about the room as we do.

In this respect, as well as in many others, all Western nations might learn from this refined little people of the East, who never mistake extravagance for greatness, nor ostentation for beauty.

Palaces.

A palace, as understood by the Japanese, means not only the home of the Mikado, but also a garden filled with residences of the *kuge*, or court nobles, surrounded by a high-roofed wall.

In old days the residence of the Mikado or palace consisted of a simple domestic dwelling of the kind described above, thatched with straw, and but little

* Godown from the Malay word *gadong*, a warehouse.

superior in decoration to that of the humblest villager, for the emperor, being of divine origin, needed no earthly pomp and circumstance to give him dignity in the eyes of his subjects. But in later years the examples of luxurious living set by the shoguns had their effect, so that in the present day the Mikado's palaces are more elaborate. In their construction, however, they resemble the domestic dwellings described above, save that they contain more permanent walls and are surmounted by roofs of a more ornamental type; while as regards decoration, they have borrowed from the resources of the Church, and many beautiful forms which adorn Buddhist temples find their way into the abodes sacred only to royalty.

The screens between the rooms are of silk, painted with wild geese, chrysanthemums, Chinese saints, and ladies who were *not* saints; or they are embroidered with exquisite copies of old masters like Mitsunobu and Mitsushige of the Tosa school. The friezes are gems of glyptic art, and are often (as in the Nijo palace) from the hand of Hidari-Jingoro, the Pheidias of Japan, while ceilings, handsomely coffered in black lacquer with gold enrichments, dispute the prestige of beauty with the rest.

In the new palace at Tokio the *shoji*, or sliding screens, are of plate glass, which is undoubtedly a mistake in a land so prone to earthquakes, and the furniture, having been manufactured in Germany, seems out of place in its Eastern home. But the walls are hung with rich brocades exquisitely woven, and the three million dollars lavished upon the palace seem, on the whole, to have been well expended.

Castles.

The castles are lofty, dignified, wooden structures, capable of accommodating a number of men at arms and of resisting spears and arrows; and are proportioned in a manner to obtain a certain effect of grandeur and harmony. Each story is placed a little within the one below, the projections being roofed with tiles (a fashion imported in the eleventh century), while dignity and an appearance of height are gained by carrying up an embankment of huge stones fitted without cement, which in mediæval times alone afforded sufficient protection from all civil disturbances.*

Most of the castles now extant date from the sixteenth century, though some have been completed at a somewhat later period, as the Castle of Nagoya (Plate IX), built about 1610 by twenty feudal lords for the son of Iyeyasu, and held to be the finest example in Japan.

Yashiki, or Homes of the Territorial Nobility.

The *yashiki*, or *spread-out house*, is a form of building which found much favour in the days of feudalism, but which is now fast dying out. It is said to have been an evolution from the military encampments of early days, in which the general's pavilion stood high among its fellows, and was surrounded on all sides (at a respectful distance) by the tents of those of lower degree.

* In the stone embankment of the Castle Osaka, erected by Hideyoshi in 1583, several single blocks measure from thirty to thirty-six feet in length and fifteen in height.

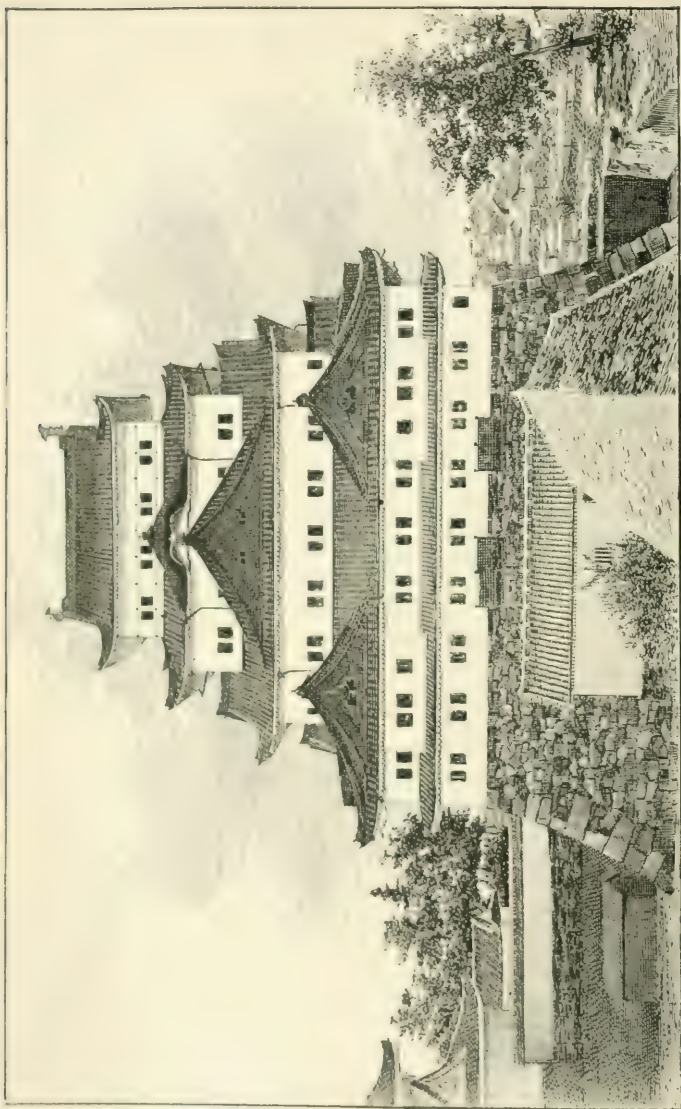


PLATE IX.—Castle of Nagoya.

The noun *yashiki* is collective, and stands for a hollow square, often inclosing some hundred thousand square feet; lined with the barracks of the soldiery; and bounding beautiful gardens, the latter interspersed with silvery fish ponds, filled with fat carp. Among these accessories of luxury rise the residences of the daimio and his ministers. The whole is girt about by a roofed wall of mud plaster and tiles set high upon an embankment of masonry, and outside runs a broad deep moat, affording a home for the hardy lotus, as well as countless herons, swans, ducks, geese, and storks.

A huge roofed gateway gives access to the enclosure, and here all save those of the very highest rank, like the Abbot of Zozoji, must descend from their palanquins, rikishas, or other conveyances before approaching his lordship's abode. The residence itself differs but little from the palaces and castles just described; but the barracks have a certain individuality, and it is to these that foreigners usually refer when they employ the word *yashiki*. They consist of long rows of two-storied buildings with projecting eaves, barred windows, hanging bays, tiled roofs, and stone foundations, and they frequently form a part of the wall of circumvallation. The doorways are splendidly adorned with nail heads, heavy bolts, and iron straps; but these are only employed to give an air of solidity to the structure, a quality which is sadly lacking in reality, the straps, etc., being for the most part wrought in thin sheet copper.

Both within and without the wood is left unpainted, showing the exquisite graining of the camphor tree, which resembles fine watered silk. This

simplicity of treatment not only wins its own mead of admiration, but also greatly enhances the splendour of the daimio's palace with its gorgeous enrichments of lacquer and gold.

In the old books *yashiki* are often referred to as *miya*, the origin of which word gave rise at one time to much discussion; but it has now been definitely decided that the first *yashiki* or *miya* ever built was occupied by Jimmu Tenno in Kashiwara-no-Miya, which fact is believed to fix not only the origin of the word, but also the approximate date of the first building of the kind, which must have been about 610 B. C.

Ecclesiastical Architecture.

All ecclesiastical buildings in Japan may be divided into two distinct styles—namely, Shinto * and Buddhist.

Shinto temples are simply developments of the primeval hut or the domestic homes of the Ainos in Yezo, while Buddhist temples are evolutions of Corean architecture on Japanese soil.

The purest specimens of Shinto temples are built of plain white pine, surmounted by thatched roofs. In them the coarse matting forming the sides of the Aino hut has given place to ordinary boarding, the

* *Shinto* is a Chinese word meaning "the way of the gods," and is used in contradistinction to *Butsudo*, or the "way of Buddha." But though the word Shinto was not used in Japan until after the introduction of Buddhism, the faith which it represents was the indigenous religion of the country, and is to-day the national creed. It is a combination of Nature worship, hero worship, and ancestor worship, and numbers eighty myriad deities in its calendar. Its moral teaching is usually summed up in the words, "Follow your impulses and obey the Mikado," and as a faith it is practised in its greatest purity in the province of Satsuma.

earthen floor to a raised wooden one surrounded by a veranda, and the rough logs used anciently as weights upon the *Muna-osa* or "roof presser" (a beam to hold the thatch in place) are replaced by cigar-shaped pieces of timber neatly turned.

At either end of the roof the rafters project so as to form a letter X above the ridgepole. This treatment always stamps a temple as belonging to the Shinto faith, a fact further emphasized by the presence of a *torii* (Plate X), a sort of Japanese propylæa composed of two columns, a lintel with projecting ends and a tie beam; a form of gateway always standing before temple inclosures devoted to the Shinto cult. The *torii* (as the name implies)* was used in old times as a bird rest, whereon perched fowls offered to the shrine; but this custom having fallen into disuse, it now only serves the purpose of an *arc de triomphe*, like the red-arrow gates of Corea.

Types of isolated temples, like that above described, are every day becoming rarer in Japan, the introduction of Buddhism having affected the architecture even of the rival faith. Thus the average Shinto temple is no longer a single building preceded by a *torii*, but a collection of buildings (Plate XI).

The temple just mentioned is still retained as the *honden*, or main shrine, but a number of roofed fences enclose it, and a series of approaches lend it the same dignity and aspect as the official residences of high dignitaries in Corea. Besides these, there are secondary shrines scattered about the grounds, temple offices, a theatre for sacred dances, a library, a treas-

* *Torii* from *tori*, meaning a fowl.

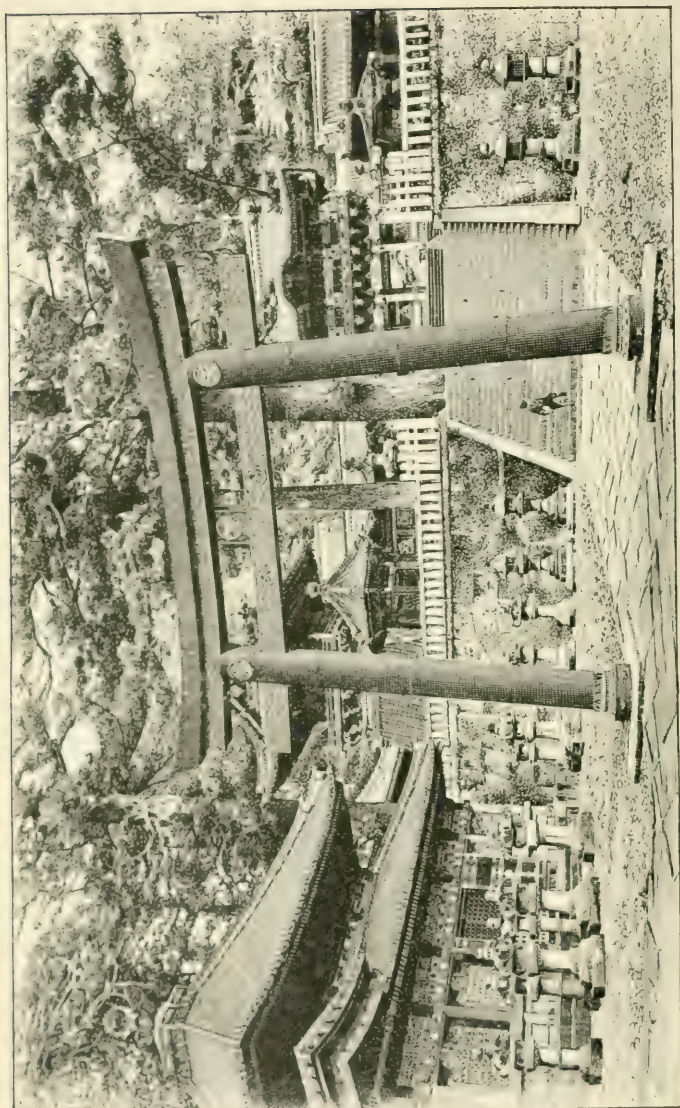


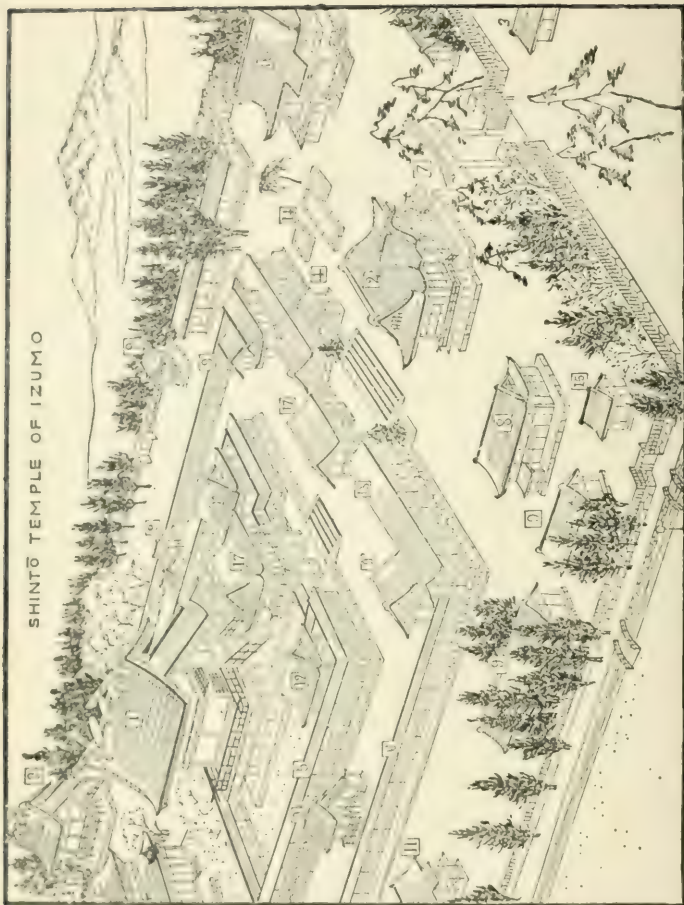
PLATE X.—Torii at Nikko.

ure house, an assembly hall, a stable for the sacred white pony, and a number of other buildings, all of which may be seen in the great temples of Ize or Izumo (Plate XI).

Buddhism, unlike Shintoism, has no hereditary or traditional law to bind it to simplicity save the law of good taste. But this faculty has always been so inherent in every Japanese that few sins of excess have as yet been perpetrated, still less perpetuated. In the Buddhist temple one sees not only a marvellous artistic instinct for grouping and colour, but a still more wonderful power of assimilation. For whatever is imported from China or Corea becomes recreated the moment it passes through the refined alembic of the Japanese mind, and in no case has this purifying process been exerted more successfully than in Buddhist temples.

To judge these temples, however, one must lay aside previous prejudice, and look at them rather from the painter's standpoint than the architect's point of view. For the Japanese *are essentially impressionists in art*, and, like all impressionists, their power lies more in colour effects than in form and outline. Hence, a temple is never designed as an isolated object, but always as a feature of the surrounding landscape, and thus appears like great splashes of crimson lacquer and gold down a mountain side rather than a symmetrical distribution of columns, windows, and wall spaces, and if the background is such as to require a still higher note of colour a gateway or supplementary building is generally enamelled over with a luminous white.

Notwithstanding this splendour of conception,



1. The *Honden*, or Main Shrine.
2. The *Hiridō*, or Observatory.
3. The *Shimōdō*, or Cemetery.
4. The *Miyasaka*, or Gates for Purification before Prayer.
5. The *Yama-gaki* (Cave) Hall, a well holding the principal buildings.
6. The *Terakoya*, or Land Lodge.
7. The *Yotsu*.
8. The *Nimurodo*, or Temple Office.
9. The *Yasaka*, or Secondary Shrine.
10. The *Bunko*, or Library.
11. The *Hōso*, or Treasure House.
12. Places for Offerings.
13. The *Kumino*, or Gallery.
14. The *Kagura-do*, or Dancing Stage.
15. Stable for the Sacred Horse.
16. Assembly Hall.
17. Gates.

PLATE XI.—Shinto temple of Izumo. From Chamberlain's Handbook.

which uses the whole landscape as a canvas, it is in detail that the Japanese most excels; for if he conceives like a giant, he invariably finishes like a jeweller.

The first building in a Buddhist shrine which asserts itself is the *sammon*, or two-storied gateway, which somewhat resembles the "gates of extensive wisdom," etc., in Corea. The framing of the lower story, however, is arranged so as to form niches, in which stand the god of thunder and the wind deity, grotesquely painted, the face of the one a livid green, that of the other a varicose red, as though congested.

The roof, as in all gateways of eastern Asia, is the most artistic feature, having broad overhanging eaves, festooned in the centre and bent upward and backward at the corners, thereby disclosing a vision of complicated corbelling. Tiles are the most popular form of covering employed, though copper embossed with armorial crests has been much used since the seventeenth century.

Passing through the *sammon*, the visitor or worshipper finds himself in the first terraced court only to encounter another gateway more imposing than the last (Plate XII), leading to the second court, and so on to a third, until, by traversing terrace after terrace, he at last reaches the oratory and chapel. These courtyards are usually filled with concomitant buildings of the Buddhist cult, as well as a number of bronze and stone lanterns presented by the daimios in token of repentance for past sins.

Belfries, priests' apartments, a *rinso* or revolving library, a kitchen, a treasure house, a pavilion containing the holy-water cistern, and pagodas rise on

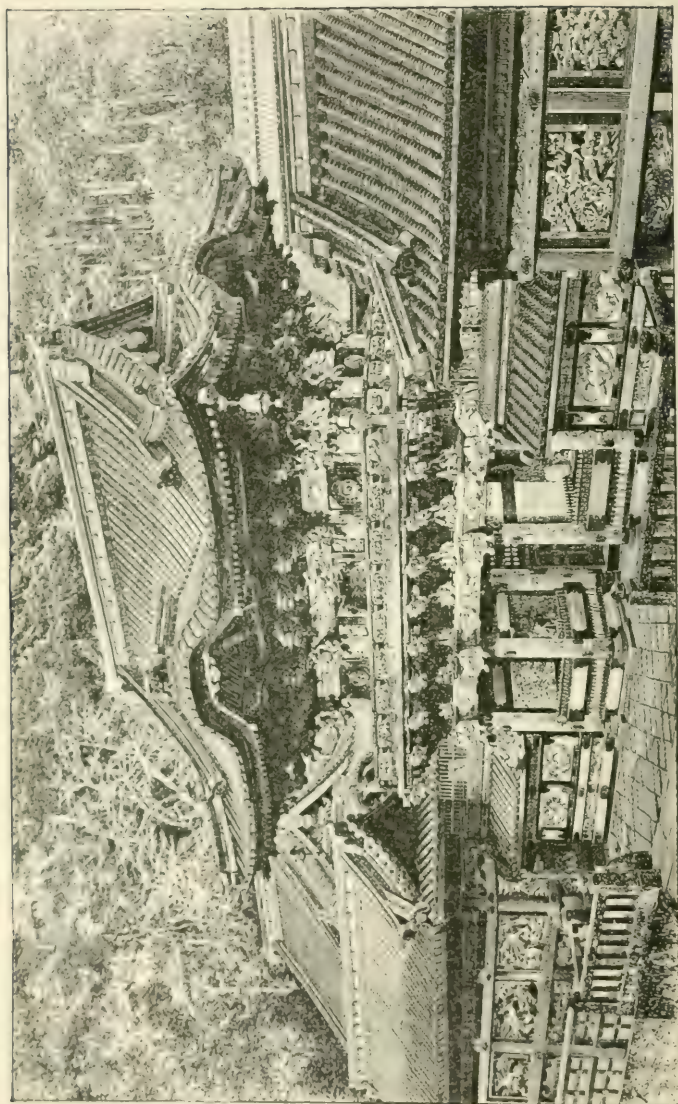


PLATE XII.—Gateway of Tokugawa temple at Nikko.

either hand throughout—all crowned with festooned roofs and clothed in crimson lacquer laid over the finest silk instead of cloth, as is the case with valuable curios of Echizen.

Among the most imposing of these supplementary buildings are the *gojin-no-to* or pagodas, which are invariably square, like those of Corea. Within each stands what at first sight appears to be a column passing through the centre as a support; a careful examination, however, reveals it to be no column at all, but a heavy beam hung from the apex of the roof, like the tongue of a bell, so that in case of typhoons or earthquakes the centre of gravity is automatically altered according to the deflection of the building from the vertical, thereby preserving the whole in equilibrium. Externally the pagoda is usually designed in five or seven stories, each set a little within the one below and girt about with balconies and overhanging eaves, as in China. The whole is usually lacquered in dull red, save the lowest story, in which a bewildering mass of painted carving distracts the eye, and, high above all, a twisted spire of bronze forms the culmination.

Pagodas are not held in quite the same esteem in Japan as in China, being valued for their ornamental qualities rather than as sacred retreats for private prayers. These, as well as all the services of the Church, are held in the oratory, which, with the sanctuary or chapel, forms the temple proper.

The temple, like the domestic buildings of the better class, is provided with a veranda and columns shaded by a gabled roof and boasts a bracketed cornice in common with other ecclesiastical architec-

ture, but, though all the wall spaces are covered with lacquer, the carving is used sparingly in comparison with some of the gateways (see Plate XII), and thus the temple acquires an added charm of dignified simplicity.

Perhaps the real cause of this simplicity is to emphasize through contrast the splendour of the interior, the dwelling place of Amida (the ideal of boundless light), which is as magnificent as painting, sculpture, lacquer, and precious metals can make it, while the *haiden* or oratory before it is hardly less imposing.

The finest of these oratories in Japan is that of the temple Iyeyasu at Nikko, which, though lately converted by a decree of the Mikado into a Shinto place of worship, is still essentially Buddhist in all architectural distribution, decoration, and detail.

Gold is the neutral of the walls, on which *kirin* (painted by Motonobu, the Raphael of Japan) perform graceful gambols. Two bands of inlay and two of open-work carving form the frieze, which is pierced at intervals by columns gold-lacquered and capped with embossed bronze. Japanese brackets support a covered and coffered ceiling, with dragons magnificently involved posing in each compartment on a blue ground, and the whole room is reflected like a monochrome in the black floor of polished lacquer.

Soft silk-bordered mats, about three by six feet, protect the latter on ordinary occasions, and by their number declare the size of the room, for the mat is the unit of square measure in Japanese architecture, it being customary to speak of a room of six, eight, or four *mats*, according to its square contents.

Such, in brief, is the architecture of Nippon. From the purely classic point of view, in which form and outline play so important a part, it may not rank very high in the scale, but to the eye of the Oriental it fulfils all that is required.

The roofs, like festooned jewelled mantles, are certainly as graceful in curve and sweep as any in the world, and as regards colour effects the temples of Shiba and Nikko stand pre-eminent throughout the East.

Besides, the Japanese never mistake *bigness* for *greatness*, nor *ostentation* for *splendour*, and throughout their designs they always exhibit that exquisite refinement and reserve which contribute so much to the beauty of the "white ideals" of Greece.

CHAPTER IV: MEXICO, CENTRAL AMERICA, AND PERU.

MEXICO.

IN the chronicles of the conquest of Mexico, the Spaniards display so much enthusiasm over their own exploits that they overlook the deeds of their adversaries, which are quite as interesting to the world at large. But, thanks to the researches of the Jesuits, Humboldt, Charnay, and Lord Kingsborough, to say nothing of the garrulous Prescott, and thanks yet more to Messrs. Stephens and Catherwood, we know definitely that the Spaniards, instead of creating a new world, simply destroyed an old civilization, which in turn had superseded others still more remote, all possessing a certain historic value and architectural interest.

The history of Mexico begins with its invasion by a race called the Toltecs from an unknown region farther north, at about the fifth century A. D., or the time of the Roman occupation of Great Britain. This race, ruled by their own successive sovereigns, held the country four hundred years, left numerous monuments of their civilization, and then disappeared from history (save in the small town of Colhuacan) through the combined agency of drought,

pestilence, famine, and the induction of a barbarous nation called the Chichimecas.

The Chichimeca supremacy continued strong until the end of the twelfth century, when in turn it was forced to give place to the Aztecs, who swept down from the coasts of California, Oregon, or other northern regions more remote.

The origin of these new invaders has been variously attributed to the Japanese, Chinese, Jews, Polynesian Islanders, and others, but with little logical evidence, though a number of Japanese words, like *waraji* (shoes or sandals), are still used in Mexico to-day. It is generally agreed, however, that the Aztecs originally found their way over from Asia via Behring Strait, and gradually worked their course southward till they arrived at the "land of flowery Anhuacan."

Under Guatemozin, son of Montezuma, the most enlightened of the Aztec princes, the dynasty fell in 1521, and from that date Mexican art and civilization became a Spanish one.

General Characterization.—Palaces and temples are the main survivals of the native art. The palaces, as a rule, were low one-story buildings, without windows, rising above one or more terraces. Each was composed of a stone basement surmounted by a species of attic carved in imitation of reeds, and decorated in high relief with scrolls, monsters, and masks, such as are used on the prows of battle ships among the Polynesian Islanders.

The roofs, so far as can be ascertained, were flat, and the rooms were only lighted from the doorways, which were square and in rare instances widened by means of columns, as at Zayi, Fig. 25.

The temples play a more conspicuous part than any other buildings among the monuments. Indeed, forty thousand *teocallis* or "houses of God" graced the ancient cities of Mexico, and many, though ruined, are still extant.

Like the Chaldean temples, they consisted, when whole, of huge platforms piled one above the other,

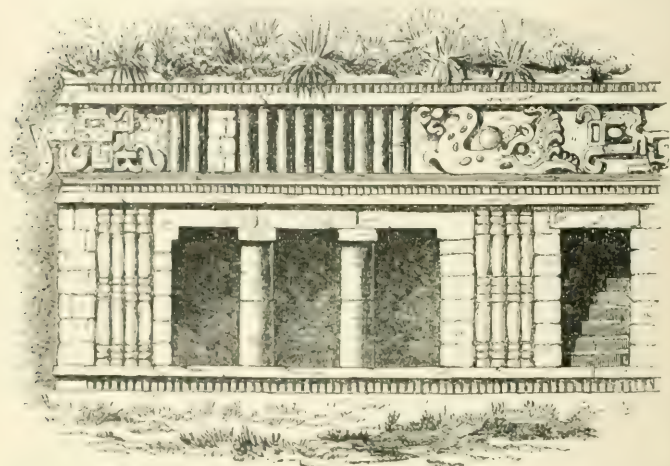


FIG. 25.—Part of palace at Zayi. From a drawing by F. Catherwood.

tapering in the ascent, and crested with a shrine containing altars and images of gilded stone.

Two remarkable specimens still stand near the city of Mexico. They were called anciently the "Houses of the Sun and Moon," names which still cling to them among the Indians of to-day. Though much ruined and overgrown with vegetation, sufficient yet remains for intelligent restoration, and the fact that these pyramids are believed to belong to

the old Toltec civilization lends them additional interest.

The temple of the Sun rose originally to a height of one hundred and seventy-one feet, having a base of six hundred and forty-five, while that of the Moon was of lesser proportion. Both had their faces turned toward the four cardinal points of the compass, which argues a knowledge of astronomy among their builders, and both were furnished with walled approaches (placed at right angles to their four sides), which, while dedicated to the stars, still serve the useful purpose of tombs for the chiefs of the nation.

Better known than these is the *teocalli* of Cholula, the most marvellous of Mexican monuments as regards size, and dedicated to Quetzal-coatl, god of good government, and god of the air.

Rising only a few feet higher than the House of the Sun, it yet covers an area twice the size of the pyramid of Cheops, or about twenty-six acres; but though so extensive, it can not be compared architecturally for a moment with the great feat of masonry on the Nile, since even in its palmy days it could never have been much more than a huge mound of clay and sun-dried brick, pierced with subterranean passages and surmounted by a rude sanctuary, without even the saving grace of good proportion,

Only bread, roses, and perfumes were offered for sacrifice in the Cholula temple, for the beneficent Quetzal-coatl was believed to abhor bloodshed, thus greatly differing from other Aztec gods, for whom an average of twenty-five thousand human beings are said to have been annually slaughtered in the city of Tenochtitlan and its suburbs.

PYRAMIDS.

In Yucatan (which to-day forms part of the "Estados Unidos de Méjico" and so part of the present division), the pyramids do not tower in successive platforms. But splendid unbroken flights of steps sweep skyward at an angle of about forty-five de-



FIG. 26.—Temple of Tzuc at Palenque.

grees, and smothered in dark-green verdure shot with gold as at Palenque (Fig. 26).

Palenque was to Mexico what Kieff is to Russia, i. e., the principal ecclesiastical city of the realm. Its main building, however, was not merely a temple, house, or monastery, but a palace containing all three—an abode at once sacerdotal and royal, like the Escorial in Spain, the within it are still gathered the ruins of temples, baths, cells, cloisters, subterranean galleries, oracles, sepulchres, towers, and courts of justice, all surrounded by a circular colonnade and all rising upon a high pyramidal terrace. Four staircases ascended this terrace, each facing the four

cardinal points, and fourteen doors in pilaster parentheses adorn the façade looking toward the east.

Bas-reliefs on backgrounds brilliant as the plumage of humming birds decorate the interior, interspersed with twisted hieroglyphics and semidetached colossi of grotesque character. These lend a weird effect in the dull-hued light, for Aztec and Toltec houses have no windows.

The most important statue discovered among the ruins was one ten feet in height, with the figure and pedestal cut from a single block of porphyry. The reverse side has been left flat, so that it probably once rested against a wall, or more likely flanked a doorway, after the fashion in Assyria.

The grotesque and fantastic was aimed at rather than the beautiful in all Aztec sculpture—just as in Japan during the sixteenth century—but there is a certain efficient boldness of execution about it which merits approval, even outside the wonders of the colour scheme, which is exceptionally well chosen.

Uxmal.

After Palenque, Uxmal is held to be the most remarkable city of Yucatan and indeed of the whole continent, and has been not inaptly called the Pompeii of America.

The Casa de las Monjas, the Palomar, and the Casa del Enano, or the House of the Nuns, the Dovecote, and the House of the Dwarf, are the most important edifices.

The first was so called from the number of cell-like rooms contained therein; the second earned the name of Dovecote from being honeycombed with

niches like pigeonholes; while the third is entered by a door so low as to suggest the theory of its having been tenanted by a dwarf.*

The House of the Nuns (Plate XIII) takes precedence of the others on account of its great size and ornamental beauty. It contains one hundred and thirty-seven rooms grouped about a spacious court resting on a triple terrace, so complexedly covered with sculpture as to "snap the sinews of patience," while the whole is splendidly splashed over with warm, brilliant colouring, so variegated as to appear like masses of butterflies' wings crushed into permanent crystals.

Gold and scarlet are the prevailing tones, and within the cells are paved with polychromatic marbles planed and polished like enamel. Bas-reliefs, sculpture, and painted figures adorn the walls, and many of the doors are still framed in *lignum-vitæ* from the jungles of Guatemala.

As yet it has been impossible to fix the date of these buildings; but by counting the rings after cleavage of certain trees which have forced their way through the pavement we know that these monuments of New Spain must have existed long before the Visigoths entered the mother country.

Concerning the domestic architecture of ancient Mexico, nothing has been definitely ascertained save that the dwellings of the rich were of a light-red porous stone surmounted by a terraced roof clad in

* The real cause of this low doorway is due to the accumulation of *diti* banded up around the house, though legend has woven many tales concerning the supposed diminutive tenant who once inhabited this ruin.

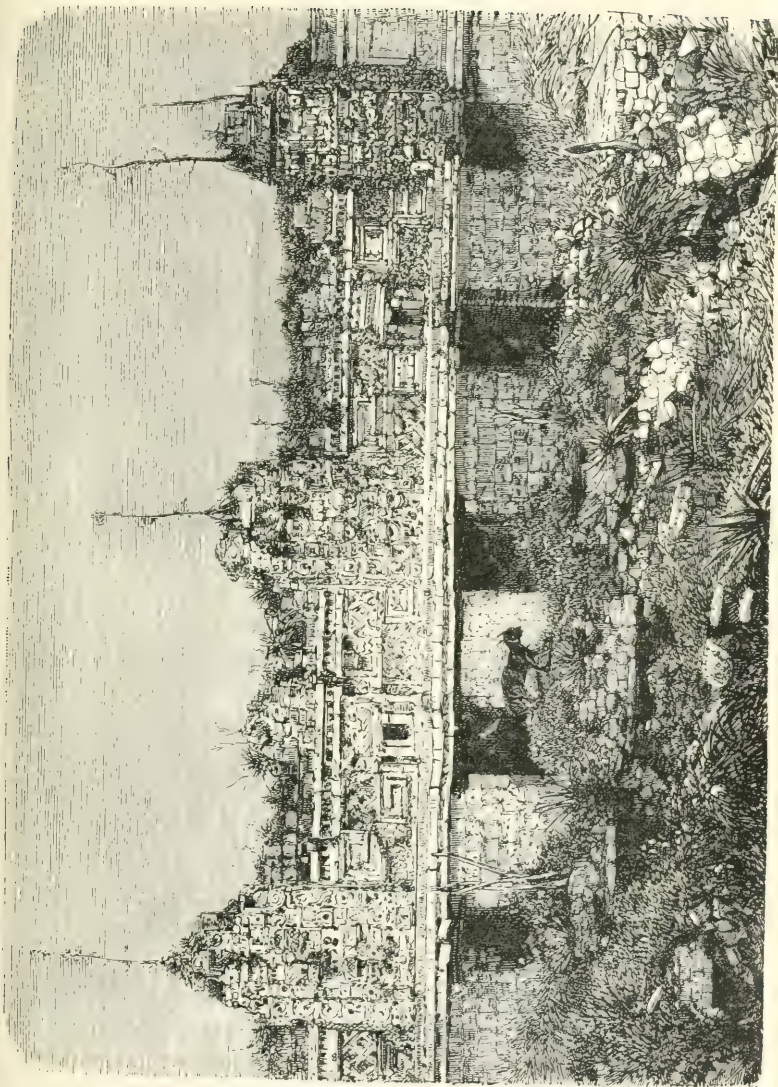


PLATE XIII.—House of the Nuns.

verdure, while the huts of the poor were either of reeds, or *adobe* thatched with grasses and aloe leaves. Hence we who would know more, but lack the enterprise and ingenuity, can only wait and hope for some Champollion of the future to read the inscriptions and tell the tale of this oldest of old New Worlds.

CENTRAL AMERICA.

Material.—The explorations and excavations in Central America have been comparatively few in comparison to those made in Mexico and Yucatan—too few indeed to be able to characterize the architecture broadly. But such as they are, all point to a style almost identical with that of Mexico, with the welcome addition of great monolithic idols whose size entitle them to architectural rank.

Solid masses of earth cased with brick or stone and terraced palaces like those at Uxmal are both to be seen in Honduras and Guatemala, but, thanks to the destructive hand of Alvarado, in less perfect condition, while the glyptic art, if not always so refined as that of Yucatan, is bolder.

Chief among the ruins of Honduras lies the half-buried city of Copan, in the valley of the Montagua, probably the oldest in America, yet so little valued and appreciated by the natives that Mr. Stephens purchased the whole metropolis from San José Maria for fifty dollars, and was thought a fool for his pains.

Here stand a number of Mexican pyramids, one of which is one hundred and twenty feet high, ascended by regular steps, and ornamented half way up with rows of sculptured death's-heads. The reason for this moribund decoration is as yet unan-

swered, for descending a sort of crater at the top, one finds himself *not* in a mortuary chamber, but in a circus or amphitheatre so like those of the Romans that the building has been well named the American Colosseum.

The sculptures here as well as in other parts of Copan are very fine. They consist of huge statues, about thirteen feet in height, each cut from a single stone and richly painted. The faces which peer out from a wealth of carved scrolls and hieroglyphics are suggestive of the great Buddha at Nara, in Japan.

Whether these statues are monuments to great warriors and generalissimos, or simply idols, has not yet been determined, but they are popularly called idols. Islands in Lake Nicaragua also boast fine statues of this kind, while at Quirigua stand a number of others still larger and older, with carvings more delicate in relief.

Guatemala.

Guatemala is not very rich in ruins, but the royal city of Utatalan, the capital of the kings of Quiché, should not be passed over in silence.

The principal building is the palace, a great windowless ruin rambling over an extent of fifty-seven English acres and made of hewn stones of various colours. The great halls and galleries were divided into six main divisions. One was occupied by the lancers and troopers of the king's body guard; another by the princes and relatives of royalty; a third by the king himself and contained the throne room, treasury, and courts of justice, while aviaries and menageries added thereunto served to beguile the toil and tedium

of state. The fourth and fifth divisions were devoted to the rooms, gardens, and baths of the queen and concubines, as well as to a goose-breeding ground, feathers being a very popular ornament; while the sixth held the precious persons of the royal virgins or daughters of his majesty.

Here reigned a long line of Toltec kings, and here ended the temporal power of the great race who promoted peace, advanced astronomy, civilized its savage neighbours, and "taught the New World its letters."

PERU.

The history of Peruvian architecture as a style is confined almost entirely to the four centuries preceding the conquest of Pizarro in 1534, for the native creations succeeding that date have been hitherto little more than a weak imitation of the Spanish style of Renaissance adapted to the local requirement, and hence may be more intelligently studied in the mother country.

According to tradition and Garcilasso de la Vega, Peruvian civilization and architecture began with the advent upon earth of Manco Capac and Mama Oello Huaco, at once his wife and sister. Both were believed to be the children of the Sun, which luminary the Peruvians devoutly worshipped, and who, taking pity on their degraded condition, was thought to have sent the celestial pair to teach them the arts of peace.

This duty being accomplished, the heavenly messengers and their descendants, the Incas (i. e., kings or lords), continued to rule over the nation in unbroken line until the Spanish conquest. No Inca could lawfully marry outside his own family, and

because the twelfth descendant of the royal line set this law at naught and married a daughter of the people a civil war broke out, which materially aided the military operations of Pizarro and eventually delivered all into his hand.

Strength, symmetry, and solidity were the most salient qualities of architecture under the Incas.

The materials employed were porphyry, granite, and brick, either laid up dry in well-fitted blocks or tenaciously held together by a fine bituminous glue; but the enormous size of the stones, some of which, according to Acosta, were full thirty-eight feet long, eighteen feet broad, and six feet in thickness, surprises even the Nile traveller.

The external aspect of Peruvian houses was cold and forbidding in the extreme; the façades, slightly slanting, after the Egyptian fashion, were simply monotonous masses of masonry without mouldings, without windows, without bas-reliefs, and only broken by an occasional doorway with inclined jambs, of Etruscan shape. Not that there is any likelihood that the Peruvians ever had any communication with either Egypt or Etruria, for there is no hint of such a fact even in tradition, but these are the forms most natural for a primitive race to use, especially in a land of earthquakes and volcanoes.

Neither houses nor palaces were often over one story in height, a two-story building being a rarity. The rooms, lighted only by the doorways and without communication with one another, were usually grouped about a court filled with luxuriant vegetation. Parterres powdered all over with flowers of

gold and silver from the mines of the Andes relieved the severity of the palaces of the Incas, and ears of corn with golden grains and silver leaves and tassels of marvellous workmanship are described by Sarmiento. But this vulgarity of decoration was confined entirely to the abodes of royalty and religion, the same effect being carried out by Nature's handiwork in the less pretentious homes of the upper classes.

Little is known concerning the interiors of ordinary buildings, but those of palaces and temples have all been duly chronicled, and suggest the fabled dreams of El Dorado.

Here at least is ample compensation for the stern simplicity of the exteriors. Gold and silver tapestries hung upon the walls, niches were filled with animals and plants composed of the same costly material, and even the furniture and domestic utensils were curiously wrought in one or other of the precious metals. Richly coloured textile fabrics of Peruvian wool, "which even the Spanish sovereigns did not disdain to use," somewhat relieved the yellow glare, but gold and silver were the prevailing materials for decoration, and often served the most ordinary purposes. Thus at the palace of Yucay, the summer residence of the Inca, and the Tsarski-Selo of Peru, subterranean silver tubes conveyed cool fountains into golden basins or supplied the royal bath.

All this seems *for* ostentatious when we remember that the Inca *alone* was permitted the use of gold ("ears wept by the sun," the natives called it), for it is thus evident that gold only represented prestige of power to the Peruvian mind.

Nevertheless with all this imperial splendour the roofs were either thatched with straw or composed of reeds, mud, and gravel, all of which only goes to show how prone civilization is to advance in one direction and halt absolutely in another.

Among the ruins yet remaining, the principal examples are: The temple or house of Manco Capac, the walls of Cuzco, and the caravansaries on the road

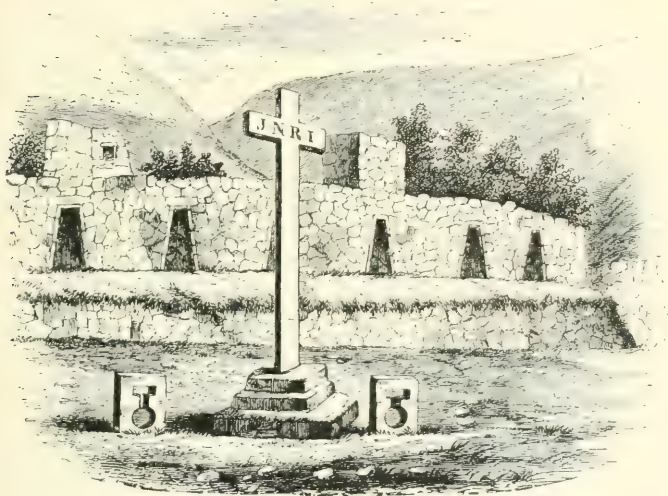


FIG. 27.—House of Manco Capac.

between Cuzco and Sinea, all of which are mainly of masonic interest.

The house of Manco Capac (Fig. 27) is the oldest in Peru, and is situated on an island of Lake Titicaca, where the godlike man was believed to have first appeared on earth.

It stands upon a low terrace, is windowless, cur-

vilinear in shape, and rises for the most part only to the height of one story, though an extra room is superimposed at intervals above the doorways, giving it an embattled appearance.

The masonry consists of well-fitted polygonal stones, which argues an ignorance of iron, for with the introduction of iron polygonal masonry seems always to have disappeared in other countries.

A higher grade of masonry manifests itself in the walls of Cuzco, the "holy city" (Fig. 28). Here the stones are still polygonal, but with edges finely wrought; and, though each block measures from



FIG. 28.—The walls of Cuzco.

eight to ten feet and weighs from fifteen to twenty tons, the adjustment is so perfect without the aid of cement that a knife blade can with difficulty be inserted between the joints.

Twenty thousand men were employed upon the task, which nevertheless is said to have required fifty years of labour before completion.

The most unique feature of the whole is its having been fortified *en tenaille*, the re-entering angles being so arranged that every part can be commanded from within and flanked—a thing found in

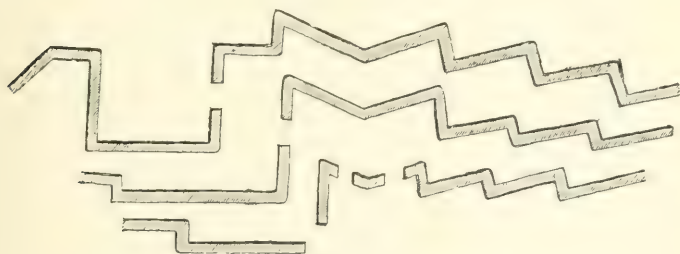


FIG. 29.—Plan of walls of Cuzco.

no other country of the world before the invention of gunpowder (Fig. 29).

The *caravansaries*, above mentioned, contain the best masonry built under the Incas. It consists of large square blocks laid in even horizontal courses with such nicety that they are as perfect to-day as when first laid.

Many other ruins are still scattered over the land—as the House of the Virgins of the Sun, the Temples of the Sun and Moon, Coricancha, or the “Place of Gold,” and others, once veritable Golcondas of wealth, but now systematically plundered and wrecked. None can be said to have stood at a very high level in the architectural scale, except as regards masonry. Columns, arches, and windows were apparently unknown; while the simple

mortising of roof rafters was effected, even in palaces, by tying the ends with thongs of maguey. Nevertheless there is hardly another primitive architecture upon earth which so little betrays a wooden origin as the Peruvian, and this peculiarity has been ever a source of interest both to the antiquary and the archæologist.

CHAPTER V: THE ASSYRIAN STYLE AND WESTERN ASIA.

POLITICALLY, the kingdoms of Assyria, Babylonia, and Persia are treated as separate subjects, but as members of the empire of art they may be considered as one. This is also true, in a relative way, of Syria, Cyprus, Phœnicia, and even Carthage, all of whom founded their art more or less upon the principles employed in the Assyrian school and style.

The origin of this style, however, is not to be found among the ruins of Nineveh, the capital founded by Assur, captain of Nimrod's host, nor yet at Babylon, the city of Ninus, "son of the mighty hunter before the Lord"; but at *Ur Chasdim*, or Ur of the Chaldees (the home of the ancestors of Abraham), at Erech (now Warka), at Borsippa, and at other cities of the plain of Shinar, where the same building methods and peculiarities prevailed as were employed later in Assyria, Babylonia, and Persia.

Hence lower Chaldea may be set down as the cradle of Assyrian art—an art born at least three thousand years before the Christian era, and contemporary with the most sublime manifestations of Egyptian taste.

A convenient classification is as follows :

First period. <i>Circa</i> 3000-1431 B. C.	}	Mainly Chaldean or ancient Babylonian.
Second period. 1431-600 B. C.		More purely Assyrian, in which the Syrian temple of Solomon at Jerusalem may be included.
Third period. 600-322 B. C.		Principally Babylonian and Persian, in which the new Babylon, Passargadæ, Persepolis, and Susa take foremost rank.

Nevertheless, all classifications of Assyrian architecture are purely arbitrary, since it is more homogeneous than almost any other known style.

This is less surprising when we remember that the Chaldeans, Assyrians, Babylonians, Elamites (or people of Susa), Armenians, Medes, and Persians all used the same writing, though they spoke different dialects, and that, though Chaldea fell from political power in the fifteenth century B. C., the Chaldeans still retained control of the priestly caste in Assyria and other countries of western Asia, and stood high in the councils of the king. Hence it was they who governed ecclesiastical art and doubtless influenced secular architecture as well.

Little now remains of the gorgeous palaces and temples of these old civilizations save heaps of rubbish and ruins; and in many instances one may say with the poet Lucan, when speaking of Troy, that "the very ruins themselves have perished." But excavations, history, and cuneiform inscriptions have combined so successfully that we can now by intelligent restoration form a very fair idea of Assyrian cities, and in consequence more clearly comprehend certain portions of Greek art.

All important buildings of the Assyrian style were built upon great mounds or terraces some fifteen feet in height, strengthened by massive walls, and mounted by means of broad imposing staircases, and inclined planes for horses and chariots.

All with one exception * had a corner turned toward the north, instead of sides facing the four cardinal points, as in Egypt.

The materials employed were bituminous bricks cemented with what in the Bible is called "slime," † now known to be bituminous clay, and casings of enamelled tile were used at Babylon; while sculptured slabs of stone and alabaster banded with copper found favour at Nineveh.

Wood played an important part, especially cypress and cedar; for roofs were composed of huge beams carrying layers of earth, when simple vaults were not employed. Doorways were often of ebony encrusted with silver, flanked with colossal statues having human heads and bodies of winged lions or bulls, and symbolizing wisdom, power, and ubiquity, while the bas-reliefs surpassed in number and extent those of any other country in the world, often stretching unbrokenly for miles.

Besides these materials, the inhabitants were by no means strangers to luxurious furnishings of every description, especially in Persia. For in the palace of Xerxes (Ahasuerus) at Susa (Shushan) we are told that there "were white, green, and blue hangings, fastened with cords of fine linen and purple to silver rings and pillars of marble; the beds were of

* Birs Nimroud,

† Genesis, xi, 3.

gold and silver, upon a pavement of red, and blue, and white, and black marble. And they gave them drink in vessels of gold (the vessels being diverse one from another)." *

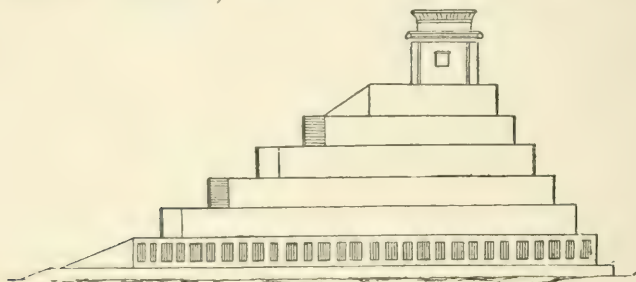


FIG. 30.—Elevation of Birs Nimroud.

What is true of Persia is true also of Nineveh and Babylon, where luxury hardly differed in quantity or kind.

All Chaldean temples were used as observatories, and here astronomical investigations were nightly carried on and traced upon soft-clay tablets, afterward to be burnt in permanently and handed down to posterity. Birs Nimroud, at Borsippa (Figs. 30 and 31), is generally considered the most interesting, from being probably identical with the Tower of Babel. It comprehended a sanctuary rising above seven rectangular terraces set one upon the other. The lowest measured two hundred and seventy-two feet at the side, and each of the others scaled forty-two feet less than the one directly below it. Steps led up to the summit, and the walls of the platforms were gorgeously glazed with vitrified brick.

* Esther, i, 6 and 7.

The lowest story was jet black, the colour of Saturn; the second and third, orange and blood red, for Jupiter and Mars respectively; the fourth was embossed with plates of gold, representing the sun, above which gleamed the topaz yellow of Venus; while the sixth and seventh took on the sapphire of Mercury and white tint of the pallid moon, the last being wrought with polished plates of silver.

Nearly all the bricks belonging to this edifice bear the name of Nebuchadonosor (or Nebuchadnezzar),

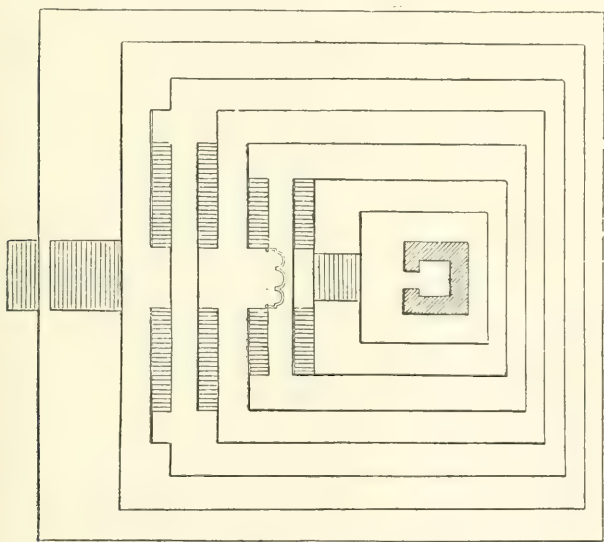


FIG. 31.—Plan of Birs Nimroud.

the son of Nabopolassar; but that he only restored and remodelled what had already existed in an unfinished state from a remote period is shown by an inscription found upon the site.

In this inscription, after describing the ravages of "the earthquake and thunder," the king announces: "The great god Mirodach put it in my heart to rebuild it. I did not change the site. I did not alter the foundations. In the month of salvation I pierced the unburnt brick of the footings and the tile of the revetments with rows of arches. I reset the circular ramps; I inscribed the glory of my name upon the frieze of the arcades. I turned my hand to rebuild the tower and the summit; as it must have been in former time, so did I remodel and restore it.—Imitate, O Mirodach! king of heaven and earth, the father that brought thee forth; bless my labours, uphold my dominion.—May Nebuchadonosor, the king who raises the ruins, dwell ever before thy face."

Of the palace at Tell-Loh exhumed by M. de Sazec little need here be said, since it follows the general plan and distribution of the Assyrian palaces, which may be better studied at Nineveh. But in this particular fact lies its primary value, since it accurately indicates the place where sprang the Assyrian style.

THE SECOND PERIOD.

Only in comparatively recent times has anything definite been known concerning the architectural history of Nineveh, the latter having remained in oblivion for over two thousand years. In 1843, however, M. Botta, the French consul at Mosul, discovered at the little village of Khorsabad the ruins of the palace of Sargon standing on what must have been either a suburb or part of the ancient Assyrian capital. This find, having been followed up by the

French, English, and Turkish Governments, soon brought to light the palaces of Nimroud, Koyunjik, and a quantity of other data, with which to reconstruct the great civilizations of ancient Mesopotamia.

Thanks to these researches, we now know that Nineveh was a vast metropolis covering an area greater than London, filled with gorgeous palaces, towers and fortresses, gay shops, parks, and botanical gardens, and intersected by streets thronged with chariots and horsemen, archers, merchants, men at arms, and glittering nobles clad in steel and cloaks of embroidered purple.

No indications of middle-class dwellings appear, save among the inscriptions, which are endless; but from these it may be positively asserted that they were many, and of wood; also that they were probably built inexpensively, for a bill of sale drawn up on a clay tile was excavated among the ruins, from which we know that "a house was sold on the 16th of May, 692 B. C., in Nineveh, for forty-five dollars." Other evidences show that most of the wealth and artistic energy of the nation were expended upon fortresses, palaces, and parks.

Nowhere do any temples appear, and possibly this warlike nation considered that they best honoured their god Nin (the Heracles of the Greeks) by fighting in the field; but the general opinion is that the palaces contained all the shrines, and were in reality palace-temples. These palaces were always placed high upon artificial terraces, and so situated that the great city wall (tower broken and pierced with massive gateways) formed the fortification of one or more

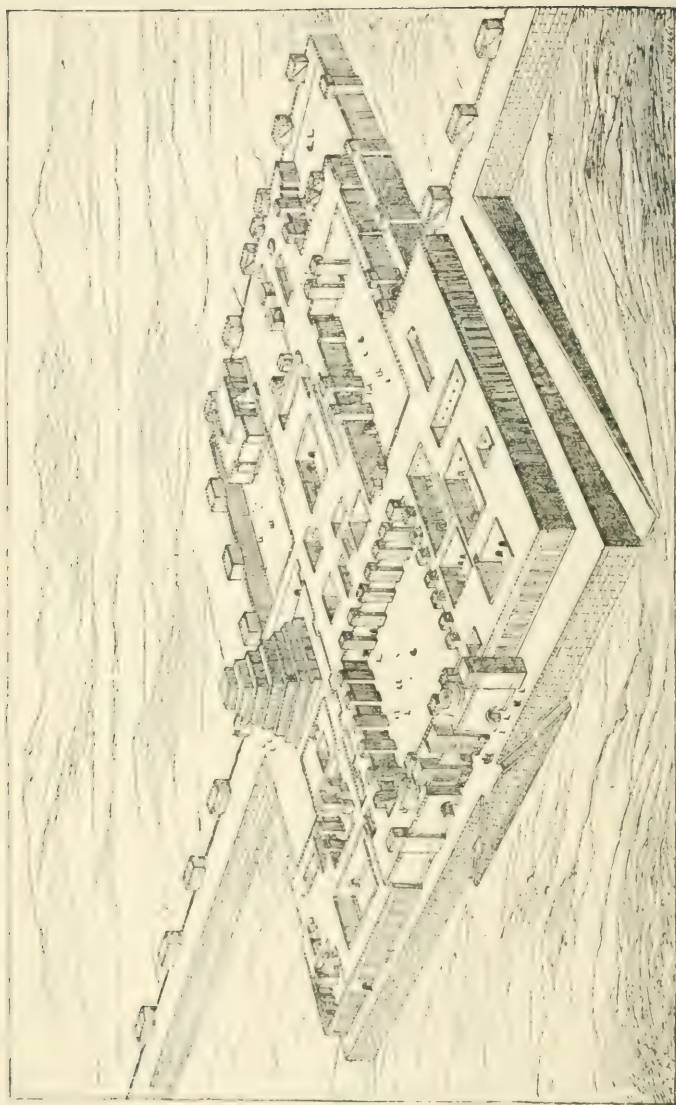


PLATE XIV.—Palace of Sargon at Khorsabad, restored.

sides (Plate XIV), while similar defences guarded the other approaches. In order to render the external aspect more forbidding, the ramparts were frequently festooned after battle with the heads of those slain or taken captive. Indeed, one of the cylinders of Sennacherib, found at Nineveh, describes him as having the heads of his enemies salted and packed away in baskets probably for this very purpose. Within, the scene changed from one of war to one of luxurious peace, and sculpture, marble-inlay, bas-reliefs of alabaster, textile fabrics, and enamelled walls vied with one another throughout.

The oldest palace of Nineveh is that of Assurbanipal, or Sardanapalus, erected at Nimroud during the early part of the ninth century B. C.

A broad flight of steps mounted to the terrace and throne room, which latter had two doors, each flanked by winged bulls with human heads decked with long hair and curling beards. These were held to be the guardian deities of the house. Back of the throne room spread a series of apartments grouped about a large central court, the whole "being divided into three principal parts, after the manner of modern mansions at Bagdad and Bassora"—namely, the *scraglio* (containing the reception rooms and men's apartments), the *harem* for the women, and the *khan* or servants' quarters. This general arrangement obtained in nearly all Assyrian palaces.

The mode of interior decoration previously described was used here also, making it a veritable museum of art; and it may not be superfluous to add that this palace included the great public circulating library of Nineveh; for quantities of clay checks,

used by the people in taking out books, have been found among the ruins.

But though this palace contains so much to gratify the mind, the explorer is never allowed to forget that the real business, as well as pleasure, of the Ninevites was war; for externally the building is little more than a huge fortress, and internally the thoughts are again occasionally recalled to his fact by the bas-reliefs, one of which, according to Wright, portrays Assurbanipal quietly dining with his queen while the head of a conquered king dangles from a neighbouring tree.

On the same mound of Nimroud stands the palace of Esarhaddon, but of more importance is the great imperial abode of Sargon at Khorsabad (Plate XIV), erected in 704 B. C., and the best preserved of all.

This great building stood within a fortified inclosure measuring some four miles each way, with ramparts broken by embattled towers and pierced with eight gates, while the palace proper with its annexed village covered an area of about one square mile.

The *seraglio* or *harem* alone contained two hundred and nine rooms, having walls from four to eight yards in thickness, and hence in many cases exceeding the dimensions of the rooms themselves, the only reasons which have been advanced for this excessive thickness being a desire for coolness and a need for strong abutments to withstand the thrust of the vaults.

This brings us to the much discussed point of how Assyrian buildings were roofed. One school claims

that wooden beams supported on wooden columns were used, and cites in evidence the modern houses of the country, which resemble their predecessors in so many respects. The other asserts that the buildings were *vaulted*, since only one column has ever been found among the ruins, while a bas-relief discovered at Koyunjik portrays a group of houses nearly all of which are roofed with domes. Both schools are probably right, for while a majority of critics accept the column theory, it is also certain that the people of Nineveh thoroughly understood vaults and arches. Indeed, M. Place has discovered all kinds of vaults, pointed, semicircular, elliptical, and the rest, as well as a beautiful round arch, spanning eighteen feet, at the city gate.

Within the palace the walls were decorated in the usual Assyrian fashion, with alabaster bas-reliefs and inscriptions reaching to a height of about ten feet, while the space above blazed with enamelled tiles, multiplying the sunlight a thousandfold after the manner of graven gems.

But all this beauty was somewhat impaired by the disproportionate figures flanking the doorways, for the species of Assyrian sphinx mentioned above guarded nearly every portal and towered to such a height as to throw the rest of the room quite out of scale. On the other hand, these monsters must have been very effective when used on the *outside* of an



FIG. 32.—An Assyrian sphinx.

edifice, and are more typical of Assyrian work than almost any other form of decoration. A peculiarity to be noticed concerning them is that the forefeet are always placed side by side, which would naturally give the creature an appearance of having only three legs when viewed laterally. Hence, the enter-



FIG. 33.—An Assyrian sphinx.

prising sculptor has added another leg for the sake of the side view, making five legs in all (see Figs. 32 and 33).

The palace of Sennacherib, Sargon's son, was situated in the oldest part of Nineveh, corresponding to *La Cité* in Paris, and called to-day Koyunjik.

It was the largest of all the palaces, requiring the work of twenty thousand men during a period of six years to raise the mound alone. Nevertheless there

is little architectural interest connected with it after Khorsabad, though the interior wall decorations were very elaborate, and the floor shone with marble, inlaid with metal arabesques.

The historical value of Koyunjik is well-nigh priceless, since its walls bear a continuous and beautifully illustrated chronicle of Assyrian history from the earliest times. How bloody that history was may be judged by the bas-reliefs, one of which represents the king poking out the eyes of captives held before him by hooks fastened in their lips—a performance, by the way, considered in the light of an honour, since unimportant prisoners were tortured by a deputy. Other sculptures portray men being impaled, tortured, and flayed alive, having their tongues plucked out by the roots, or their necks hung round with the dripping heads of their decapitated friends before receiving some extra refinement of torture for themselves.

Syria.

In Syria all the best architecture was represented at Jerusalem, save the Temple of the Sun at Palmyra, which belongs properly to the Roman style ; and all the best art of Jerusalem was epitomized in the temple of Solomon, which stood on Mount Moriah, overlooking the Vale of Kedron.

This temple belongs chronologically to the *second* period of the Assyrian style, but artistically to the *third*.

The site was purchased by King David from a wealthy Jebusite named Araunah for fifty shekels of silver, or a trifle over twenty-seven dollars. Work did

not begin upon the building until the fourth year of the reign of Solomon, 1013 B. C., but in that year (the support of Hiram, King of Tyre, having been obtained for a consideration) Phœnician architects, artists, artisans, and workers in gold, silver, and textile fabrics thronged in on every side, and soon arose a temple sixty cubits long, twenty cubits broad, and thirty cubits high,* belted round with supplementary rooms and preceded by a portico extending the width of the building.

All materials were prepared before being brought to the building, "so that there was neither hammer nor axe nor any tool of iron heard in the house" (I Kings, vi, 7); and soon columns, cornices, and walls flashed with bronze, gold, silver, ivory, and precious stones throughout the whole.

Of the more decorative *appareil*, all was essentially Phœnician—that is, a compromise between Assyrian and Egyptian art; and carved cedar of Lebanon played an important part both in the Holy Place and the Holy of Holies. Between these hung *the veil*, stained with azure, crimson, and purple (to represent air, fire, and water) and embroidered over with the cherubim.

"King Solomon only lived to finish the first court and the east wall of the second," which last was completed long after in the reign of Manasseh.

Under the kings of Judah many restorations and additions took place, but at the taking of Jerusalem by Nebuchadnezzar, in the reign of Zedekiah, 588 B. C., all was destroyed.

* A cubit is equivalent to about one foot ten inches.

Fifty-two years later Zerubbabel (the Jews having been freed by Cyrus) began the second temple on a less elaborate scale than that of Solomon, and which, being hindered in building by the Samaritans, was not completed until 516 B. C.

Of the external appearance little is known, save that it followed the general plan of the first temple; but the interior decoration was very elaborate, according to Josephus, who tells of doors overlaid with gold and silver; carven leafage tipped with tremulous gold; lilies and pomegranates; embroidered hangings of hyacinth, purple, and scarlet; and ceilings spanned with polished cedar; so that under successive generations it became a species of museum representative of Syrian art.

For the next four generations little occurred save the erection of a fortress at the northeast corner in the time of the Maccabees, after the profanation and pillage by Antiochus Epiphanes. But with this exception Jerusalem seemed to miraculously escape the systematic plunder performed by Rome in other portions of the East, and if she did not advance architecturally, she did not retrograde.

In the year 40 B. C. Herod of Idumæa was crowned king, and, wishing to popularize himself with the Jews, whom he had offended in various ways, began, in 18 B. C., the rebuilding of the temple in marble (only preserving the eastern wall of Solomon). This he carried out on a scale of gorgeous splendour sufficient to awe the world even in that imperial day (Fig. 34).

Not until the reign of Nero was the work completed, and then only enjoyed six years of life before

it was entirely razed to the ground by Titus, as our Lord foretold (Mark, xiii, 2).

"In that terrible siege in which famine-stricken parents murdered and devoured their children, fighting and tearing at one another for the foul fragments

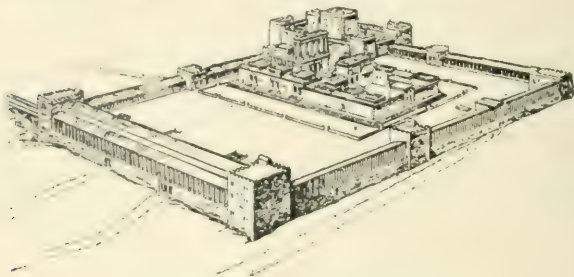


FIG. 34.—Temple at Jerusalem.

of the feast," the spirit of Judæa was broken, and with it perished Syrian art; for the slight plucking up of courage in the time of the Emperor Julian had no effect upon architecture, and when building art revived again it was in a new form and under the Mohammedan dispensation.

THE THIRD PERIOD.

The political history of Babylon extends backward to a period more remote than the foundation of Nineveh, but its architectural history begins only with the *new* Babylon, or rebuilt city of Nebuchadnezzar. This city was a huge square, measuring fourteen miles each way, bisected diagonally by the Euphrates River, and parcelled out into rectangles by broad streets, like New York, Mannheim, and many German cities.

Gardens, orchards, and even farms were interspersed throughout, irrigated so admirably that they yielded two or three crops in the year (a thing of inestimable value in case of a siege), while broad brick quays, bordering the river and canals, lent an air of civic splendour.

The city wall, according to the lowest estimate, was forty-one miles in length. A hundred brazen gates pierced the masonry and two hundred and fifty towers broke its embattled top.

The towers were placed on the outer and inner edges, affording room for a four-horse chariot to turn, as well as an agreeable driveway around the town.

Some twenty-three hundred years ago Darius Hystaspes destroyed this wall, fulfilling the prophecy of Jeremiah: "The walls of Babylon shall fall. The broad walls of Babylon shall be utterly broken," * and to-day nothing whatever remains to mark the place.

The water ways of the city were spanned by great drawbridges, which were employed only by day and left open by night. Ordinary houses were three and four stories high, but the great show mansions which delighted the Assyrian sightseer in 600 B. C. were taller, and much resembled those of Nineveh.

The three most important monuments were the Palace, the Temple of Belus, and the Hanging Gardens.

Little is definitely known of the palace save that it was similar to the royal abodes of Nineveh, while the Temple of Belus was simply a reproduction of Birs Nimroud. But the Hanging Gardens remain as yet

* Jeremiah, li.

unparalleled in ancient history, and, according to Strabo, were held to be one of the Seven Wonders of the World.

This airy paradise was due to the whim of a woman; not the mythical Semiramis (for Berosus, the Chaldean historian, has now corrected that impression), nor a relative of Cyrus, but Amytis, the fair Median princess, whom Nebuchadnezzar made his queen, and who pined for the vine-clad hills and lordly forests of her fatherland till the king commanded that the mountains be brought thither.

And so it came to pass that terrace on terrace and tier on tier of arches were piled up one upon the other, above which were high hills covered with wild flowers and verdure, olive groves, and even forests from the Median mountains. Cool fountains, crystal brooks, and foaming water courses dashed over mossy crags, supplied by water screws over three hundred years before Archimedes invented them at Syracuse, and shady retreats between the arches lay transformed into spacious royal apartments, equipped with all the luxury and splendour of the despotic East.

The resources of Babylon for decorative purposes were well-nigh stupendous. Wealth poured in from every vassal state, and treasures of conquered kingdoms drained into the golden city. Sidonian ships brought beaten gold and ivory from the Pharaohs and pearls and jades and dark-veined onyx from India and Ceylon. Caravans bore precious woods and perfumes from Arabia, and emeralds and agates from the Median mountaineers; while Tyrian webs which caught the sunset rays were bartered for Lydian lutes and Babylonian protection.

But wealth wrought weakness and luxury languor, and soon the profligate nobles pulled the Persian yoke about their necks. Babylon fell! and art passed away to Susa, Passargadæ, and Persepolis.

PERSIA.

Persian art, as before suggested, belongs essentially to the Assyro-Chaldean style, and is indeed a highly developed form of the same, the only impor-

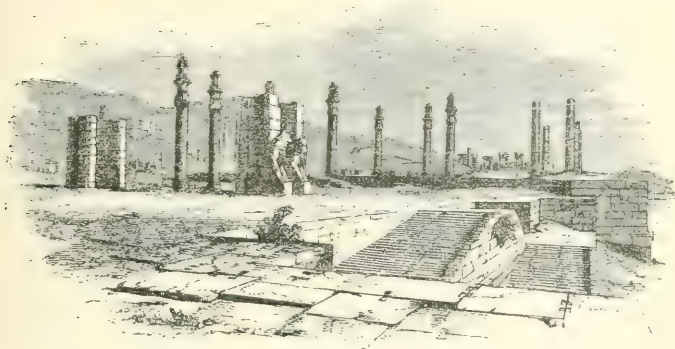


FIG. 35.—The Ruins of Persepolis.

tant difference between Persian palaces and those of Babylon and Nineveh being the use of stone columns and a somewhat greater lightness and elegance of treatment in the masonry.

At Passargadæ, the capital of Cyrus and Cambyes, and at Susa, where stood the winter palaces of the Persian kings, the ruin is too great to offer interest to any one save the archæologist. But at Persepolis much that is interesting is still preserved, and there the style reveals its purest form.

Persepolis is situated in the midst of a vast natural amphitheatre of jasperlike marble, known as the plain of Nardacht, and stands upon a terrace, part masonry and part cut into the adjoining hills. Unlike Babylon and Nineveh, the materials employed were huge blocks of gray marble laid up dry, without cement, but so deftly adjusted that the joints can with difficulty be detected.

Three principal ruins (Fig. 35) mark the site of the city—namely, Chehil Minar (Iranian for forty columns), the palace of Xerxes, and the palace of Darius.

Splendid broad staircases, like those of Assyria, led up to the first mentioned—not at right angles, but by double turns, so as to allow processions and royal pageants to wind back and forth before the throne of the king, situated at the top.

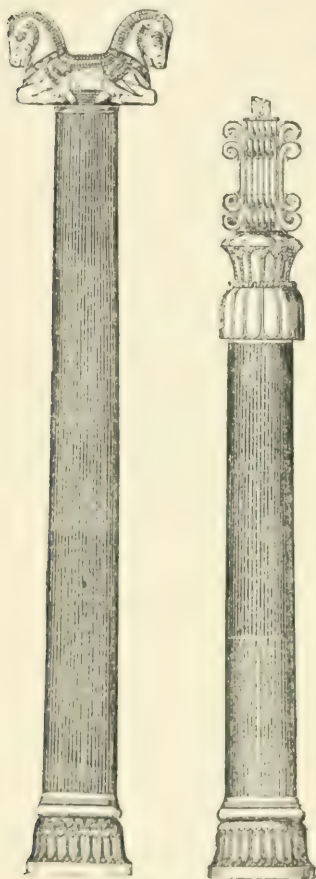


FIG. 36.—Persian columns.

These stairs, though of easy grade, must have been more imposing than convenient, for the same fashion

obtained at the temple of Solomon, and it will be remembered that when the Queen of Sheba saw the "ascent by which he [Solomon] went up into the house of the Lord, there was no more spirit in her."

Two great human-headed bulls flanked a propylæum at the top of the stairs at Chehil Minar, and here, within the pillared precinct of the portico, all public business was transacted by the king. Behind Chehil Minar, and reached by another staircase covered with bas-reliefs, rose the great hall of Xerxes (three hundred by three hundred and eighty feet) with central throne room and lateral porticoes.

Here occurs the principal difference between the Assyrian and Persian styles—namely, the use of stone columns. All are formed with fluted shafts, some with forked capitals composed of double-headed bulls or horses, some with volutes set vertically (Fig. 36), and others with both (Fig. 37).

It has been suggested that the Greek Ionic capitals were derived from these volutes, but it seems to

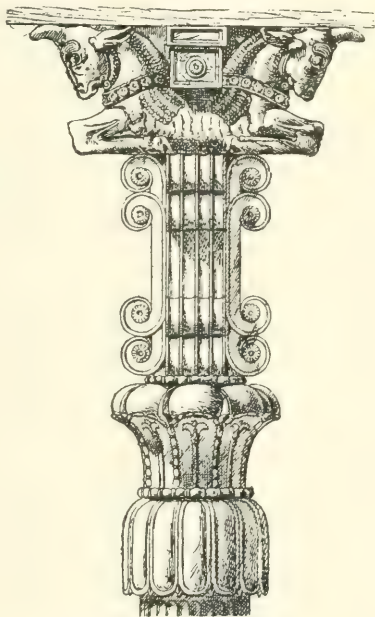


FIG. 37.—Persian capital.

be more probable that they came indirectly from the *colonettes* used at Nineveh (Fig. 40).

With the conquest of Alexander ended the Assyrian style, though during succeeding centuries it was not without a certain influence upon the architecture of Greece, Rome, and Byzantium, not to mention several subdivisions of western Asia.

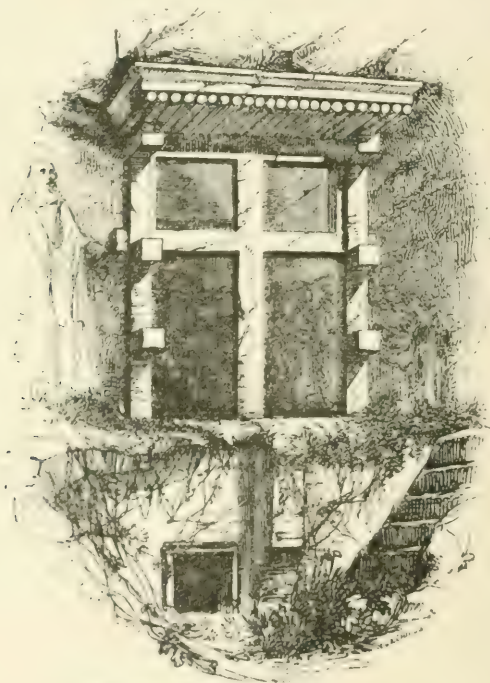


FIG. 38.—Rock-cut Lycian tomb.

Under the Sassanian kings, however, an Assyrian *renaissance* took place, the most important elements of which were Roman details and Assyrian construction.

The palaces Darbekr, Al Hadhr, Firouzabad, and Tak Kesra are the best examples, and very likely had an effect upon Saracenic art.

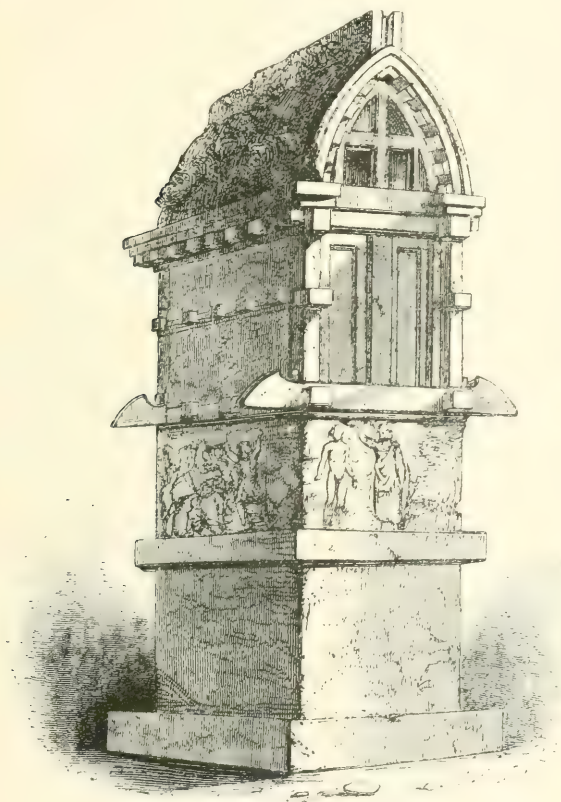


FIG. 39.—Isolated Lycian tomb.

Of the Assyrian offshoots which flourished in Phœnicia, Cyprus, Carthage, and Asia Minor, so little now remains that true restoration is at best problem-

atical. Even the majority of Greek temples in the Ionian cities can only tell their stories by means of coins and historical descriptions, and so may best be studied in their purer and more refined form at Athens.

In Lycia, however, occur several tombs which should not be passed over while treating of western Asia, since they show more clearly the transition from wood to stone than any other remnants of the country.

For, whether rock cut or standing isolated on the plain (Figs. 38 and 39), all their constructive and ornamental features imitate a species of carpentry in *stone*, even to the panelling of doors, where the wooden original is faithfully executed in the same permanent material.

When in later times Ionic façades were substituted in these tombs, they betrayed their wooden origin more frankly than in Greece, and hence acquired an added value in the eyes of the antiquary.

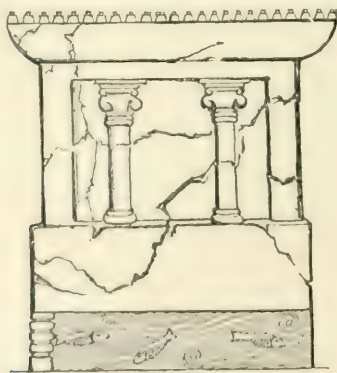


FIG. 40.—Bas-reliefs found at Nineveh, showing colonettes.

CHAPTER VI: GREECE.

INTRODUCTION.

GREEK architecture may be abstractly characterized as pure, tranquil, solemn, and reserved; full of exquisite balance and delicate poise, of refinement and simplicity; never feverish, unbridled, or transient; never dependent on tricks of picturesque irregularity of which one tires after frequent contemplation; but eternal, deep-rooted in the wellsprings of human sympathy and feeling; in lines sensitive to lofty moods and emotions, in persuasive, dreamlike "white ideals."

Its history, however, is more concrete and simple, and, while dealing with *causes* as well as *results*, makes gradually clearer the secret of its success.

Nearly all the abstract qualities enumerated above apply to Greek architecture after it had developed into a fine art. But this art, like all things having a touch of the beautiful and divine, was evolved, not created, and so had necessarily to pass through the crude forms which ever precede perfection.

This evolution from crude art to fine art does not become really evident until at least four hundred years after the Dorian invasion in 1104 B. C.; a species of Hellenic "dark ages," during which so little per-

manent building occurred that the interval automatically divides the whole subject into two very distinct divisions, namely, the *Pelasgic Period*, and, what may for convenience be styled, the *Periclean Period*, since its architecture arrived at perihelion during the censorship of that greatest of all art patrons, Pericles.

THE PELASGIC PERIOD.

The first era takes its name from the Pelasgi, a people originally inhabiting either Lycia or the country round about the confines of the Caspian, whence have ever sprung the fairest of the human



FIG. 41.—Doorway of Cyclopean period.

race. Moving gradually westward, they swarmed successively over Asia Minor, the Archipelago, Peloponnesus, Sicily, Italy, and Sardinia, and left monuments built of such huge blocks that the Greeks attributed them to the *Cyclopes* or mythical giants of Proteus. Hence the term Cyclopean has now come to be applied to all massive masonry of similar character.

The cities and strongholds of this race in Greece were usually well fortified citadels occupying lofty rocky eminences for security against the wild tribes round about.

Their dwellings were mainly of wood and metal, which time and plunder have long since removed, but the city walls and certain beehive shaped struc-

tures called treasuries still exist, and are built of the huge stones above mentioned. The walls average twenty-five feet in thickness, are laid up dry without cement, and are pierced at intervals with triangular

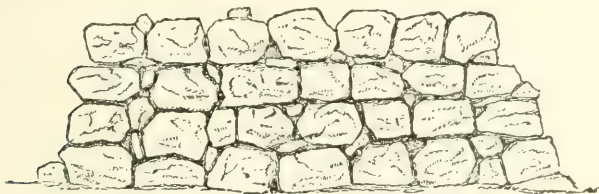


FIG. 42.—Cyclopean masonry.

windows and doors. These were arched by making each course slightly overlap the other until they met in a point, or (to speak more technically) by corbelling; while the ridges were chiselled off to present a smooth surface on the inside (Fig. 41).

Henry Schliemann divides Cyclopean masonry into three distinct epochs, according to its arrange-

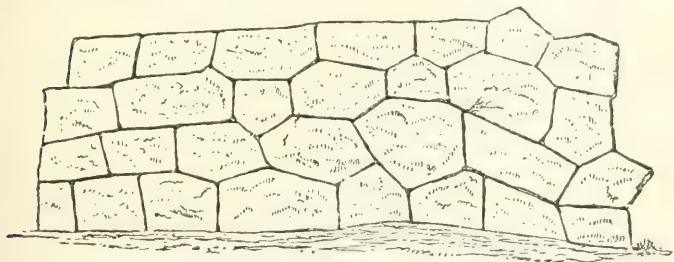


FIG. 43.—Cyclopean masonry.

ment or construction. That of the first or earliest period consists of immense rough-hewn lumps, having interstices filled with smaller stones (Fig. 42);

that of the second is composed of huge polygonal blocks so exquisitely jointed that the lines of division are scarcely visible at a distance (Fig 43); while

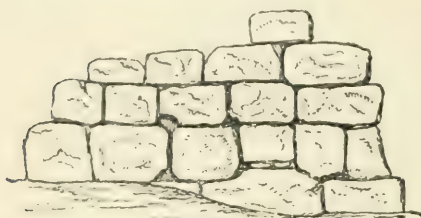


FIG. 44.—Cyclopean masonry.

to the third division are ascribed the walls formed of quadrangular stones laid in horizontal courses, but with joints only more or less vertical (Fig. 44). Spec-

imens of all three styles may be still seen in Phocis, Attica, Bœotia, and in Lemnos, Lesbos, Chios, and other Ægean islands. But the most remarkable remains are at Tiryns and Mycenæ in the province of Argolis, the whilom home of Agamemnon, "tamer of steeds," "king of men," and leader of all at Ilion.

At Tiryns single stones measure over nine feet in length and the ramparts in certain places exceed forty feet in thickness. Homer and Pausanias both refer in complimentary terms to Tiryns the ancient heritage of Hercules, the Lydian writer enthusiastically comparing it with the Pyramids of Egypt. But the modern archæologist finds the walls of Mycenæ the more interesting and comprehensive, since they contain examples of all three eras.

In Mycenæ also may be seen the triangular openings mentioned above, whose shape being obviously awkward for the fitting of doors eventually brought about the insertion of a lintel and a straightening of the door jambs, while the open space thus left above was filled with sculpture, as in the citadel entrance

called the "Gate of Lions" (Fig. 45). In this gateway the lintel is a single stone, over fourteen feet in length, above which, framed in the masonry, is a great triangle of basalt, having two lions (the royal insignia of the Pelopidæ) sculptured thereon, each

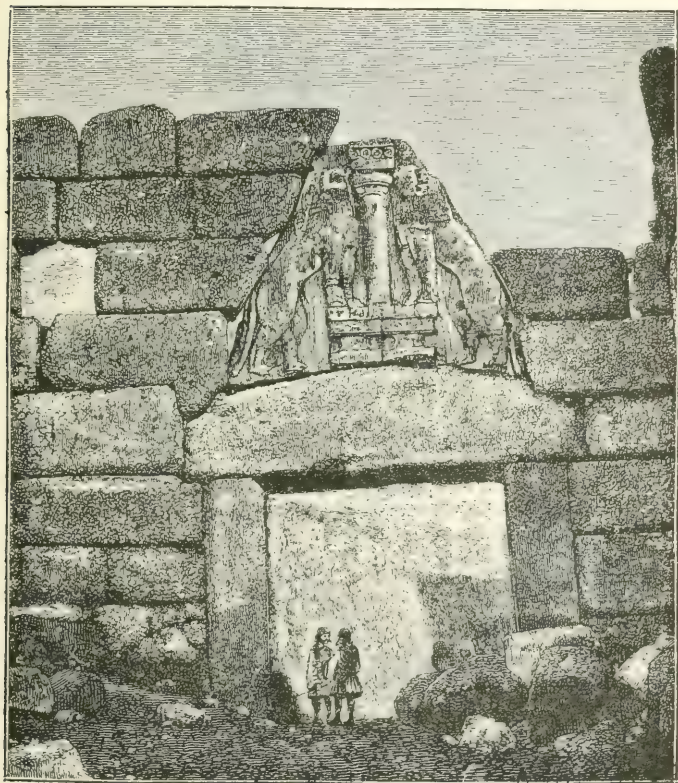


FIG. 45.—Gate of Lions at Mycenæ.

facing the other, their forefeet resting on an altar. Between them stands a *colonnnette*, the symbol of Apollo

Agyieus, "guardian deity of streets," a favourite feature of later Greek porticoes.

Another more primitive gate, without sculpture, opens into a subterranean gallery leading to the so-called Treasury of Atreus, a building of beehive shape, corbel-vaulted, and underground (Figs. 46 and 47.)

Brazen plates apparently adorned and lined the inside surface of the walls. For each stone is perforated with two small holes in which bronze nails were inserted and (in certain cases) still remain, while

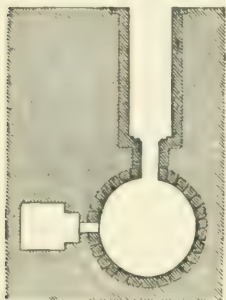


FIG. 46.—Plan of Treasury of Atreus.



FIG. 47.—Section of the Treasury of Atreus.

many such nails have been found scattered about upon the floor.

Thus may one accept literally Homer's description in the *Odyssey* (vii, pp. 84-87) of the house of Alcinoüs, as well as "the brazen chamber," prison of Danaë, cited by Pausanias, and the "room lined with bronze plates," mentioned by Sophocles. All of which goes to show that metal plating was by no means an uncommon decoration of Pelasgic times.

Another building, almost the counterpart of the

Treasury of Atreus, is the Thesauros of Minyas at Orchomenos, in Bœotia, but its main room covers a much larger area and is vaulted with blocks of fine white marble. All these buildings are principally interesting on account of the corbel system of vaulting employed, which would probably not have been used had vaulting by wedged stones, embodying the principle of the arch, been thoroughly understood. That the latter was not entirely unknown, however, has been proved by M. Heuzey, who found some rude examples of the kind in Acarnania.

The Dorian invasion closes this comparatively uninteresting chapter of Greek architectural history, and the tale is not again resumed until about the middle of the seventh century B. C., when architecture gradually awoke to beauty and reached perfection.

THE PERICLEAN PERIOD.

All Greek architecture from the time that it becomes a fine art may be divided principally into temples, theatres, circuses, gymnasia, markets, private dwellings, and tombs. Of these, the temples are the most important. Each consisted mainly of a *cella* or oblong building, divided into a *pronaos* or porch, a *naos* or shrine, and an *opisthodomos* or treasury behind the shrine (Fig. 48). These were generally surrounded by a broad covered colonnade, surmounted at either end by a gable; or they were simply preceded by a portico crested in like manner.

It has been conjectured that the shrine was only roofed over the statue of the god, the rest being left open for the ascent of smoke and incense, and also on account of a prejudice among the Greeks that

prayer should be offered up under an open sky. But the majority of modern writers concur in stating that the whole temple was roofed over with wood, and covered with tiles of terra-cotta or marble (Fig. 49). In the Parthenon a narrow colonnade lined the sides

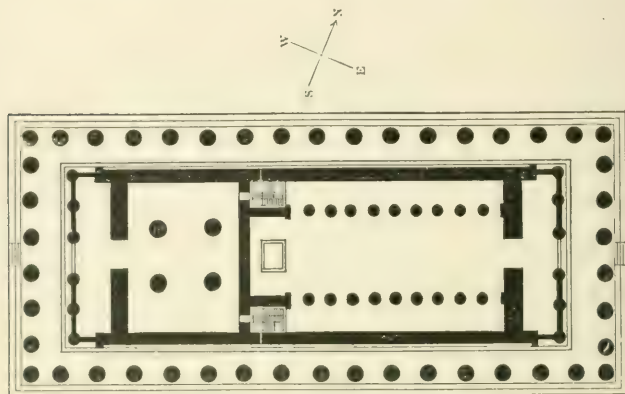


FIG. 48.—Plan of the Parthenon.

of the shrine parallel to the outer peristyle, but this was confined to large-sized temples.

All houses of worship were divided according to three principal systems or *orders*—namely, Doric, Ionic, and Corinthian, and each order consisted briefly of a *column*, a *pedestal* (on which in Roman times the column rested), and an *entablature* or top member.

These were furthermore subdivided: the column into *base*, *shaft*, and *capital* or top (Plate XV); the pedestal into *base*, *body*, and *plinth*; and the entablature into an *architrave* or beam resting directly on the column, a *fricze* or space occupied by the ends of

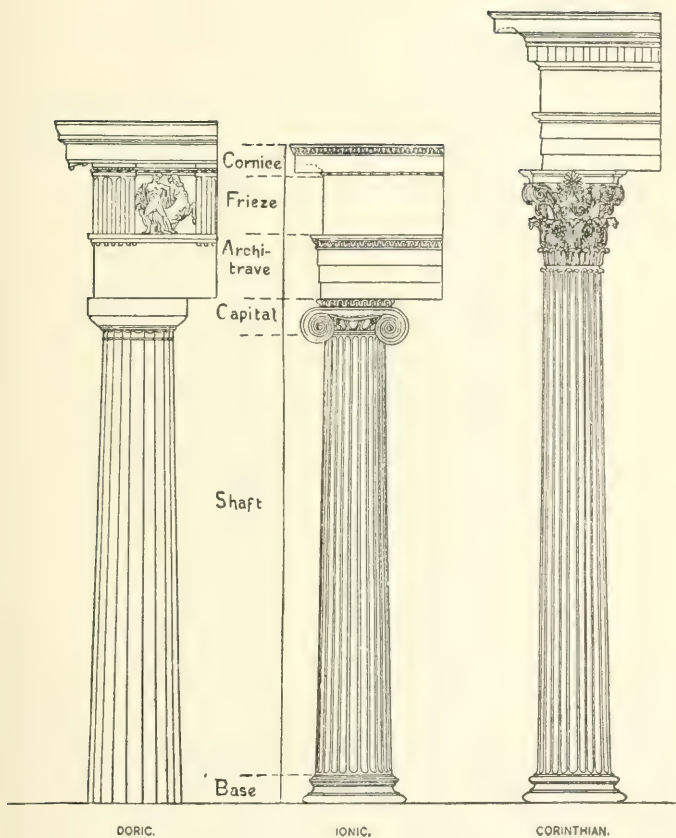


PLATE XV.—The Greek Orders.

the cross beams, and a *cornice* or line of projecting mouldings above the latter (see Plate XV).

These members, variously proportioned and decorated, form (with the arch introduced later by the

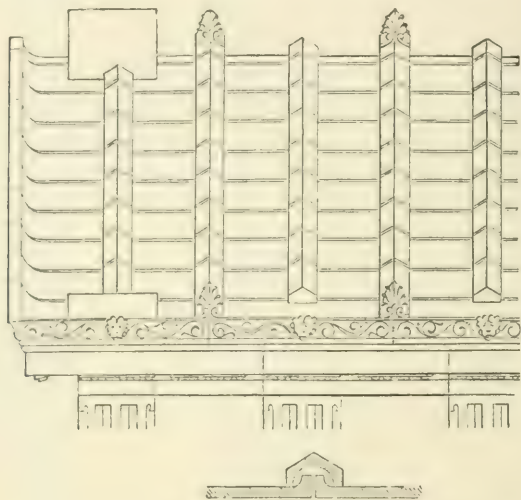


FIG. 49.—Roof of marble tiles in a Greek Doric temple.

Romans, but unemployed by the Greeks) the basis of all classical design.

THE DORIC ORDER.

The Doric takes chronological precedence of the other two orders; for among the ruins now remaining is an example whose date can not be assigned later than 650 B. C. It occurs in the Doric Temple of Corinth, a building very far from realizing in its design the beauty and elegance of proportion to be found in the later developments of the style. In-

deed, its columns, though tapering, are only four diameters* in height (Fig. 50), causing a general thickening of the members throughout. But this very massiveness, not to say clumsiness, is a real advantage from an archæological point of view, by pointing out and emphasizing its Egyptian origin, and so recalling the rock-cut tomb at Beni-Hassan (chap. i, Fig. 4), its probable prototype. Neither frieze nor cornice surmounts the simple architrave of this ruin and link between rudeness and refinement, and another glance at Beni-Hassan makes the theory by no means untenable that the temple at Corinth contained neither

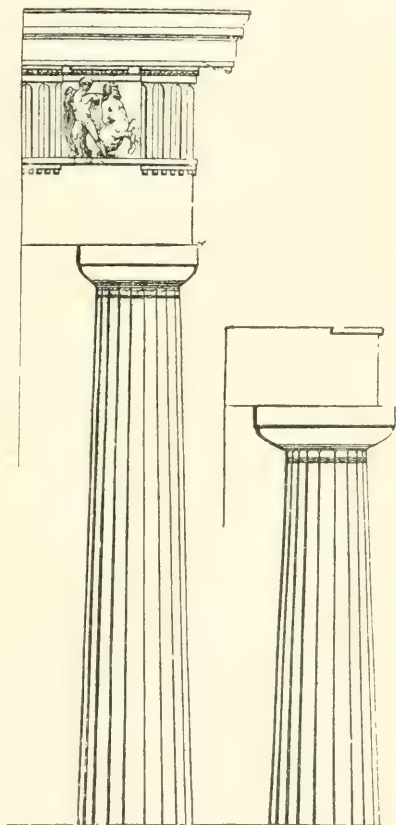


FIG. 50.—From Parthenon at Athens.

From Temple of Corinth.

* Diameter when used as a measurement always refers to the diameter of the column in its lowest or broadest part.

frieze nor cornice. The next step of the Doric order toward perfection may be seen in the Temple of Zeus

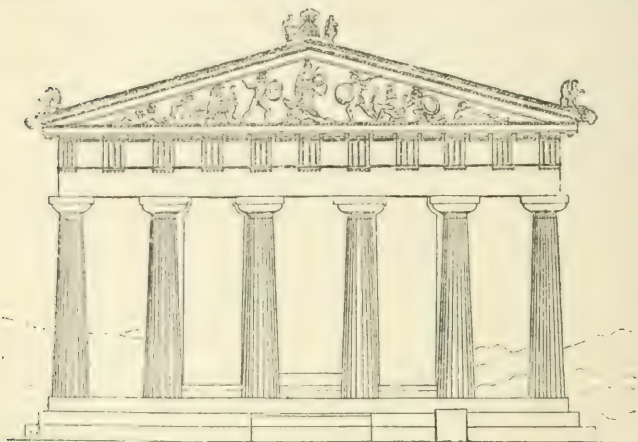


FIG. 51.—Temple of Zeus at Ægina.

at Ægina (Fig. 51), dating about one hundred years later (*circa* 550 B. C.).

Here the columns are over five and a half diameters in height, the entablature is provided with both frieze and cornice in graceful proportion, and triglyphs (Greek for three grooves) appear at intervals along the frieze. These, while emphasizing the wooden origin of the order by showing where the ends of the cross beams would project, give also a pleasing punctuation to the horizontal monotony of moulding, and a delicate convexity on the sides of each column softens the severity of the vertical lines.

The pediment, shown in the restoration (Fig. 51), no longer exists, which is not surprising, since Cicero refers to the building as being in ruins even in his

time; but it was probably filled with sculpture in high relief portraying the exploits of the Æacidæ, the heroes of Ægina in the Trojan war, and thus acquired a beauty of detail, which beauty increased instead of diminished in other temples as the evolution of the order proceeded.

The last link welded into the Doric chain before it could reach to the perfected beauty of the Parthenon was the Temple of Theseus (Plate XVI) at Athens, built under Cimon, son of Miltiades, after his return from Scyros with the ashes of the hero and flushed with victory over the Dolopian pirates.

Its date must therefore have been between 469 and 465 B. C., or something less than eighty-five years after the building of the temple at Ægina.

Like the Parthenon, it is peripteral (Greek, winged around)—that is to say, surrounded on all sides by a

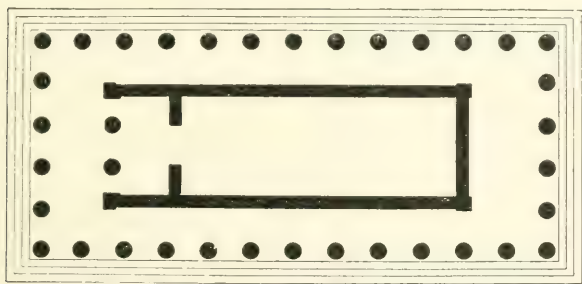


FIG. 52.—Plan of the Temple of Theseus.

colonnade (Fig. 52)—the columns being 5.7 diameters in height, and here for the first time (so far as we know) the metopes, or spaces between the triglyphs, were carved with bas-reliefs. Yet so great

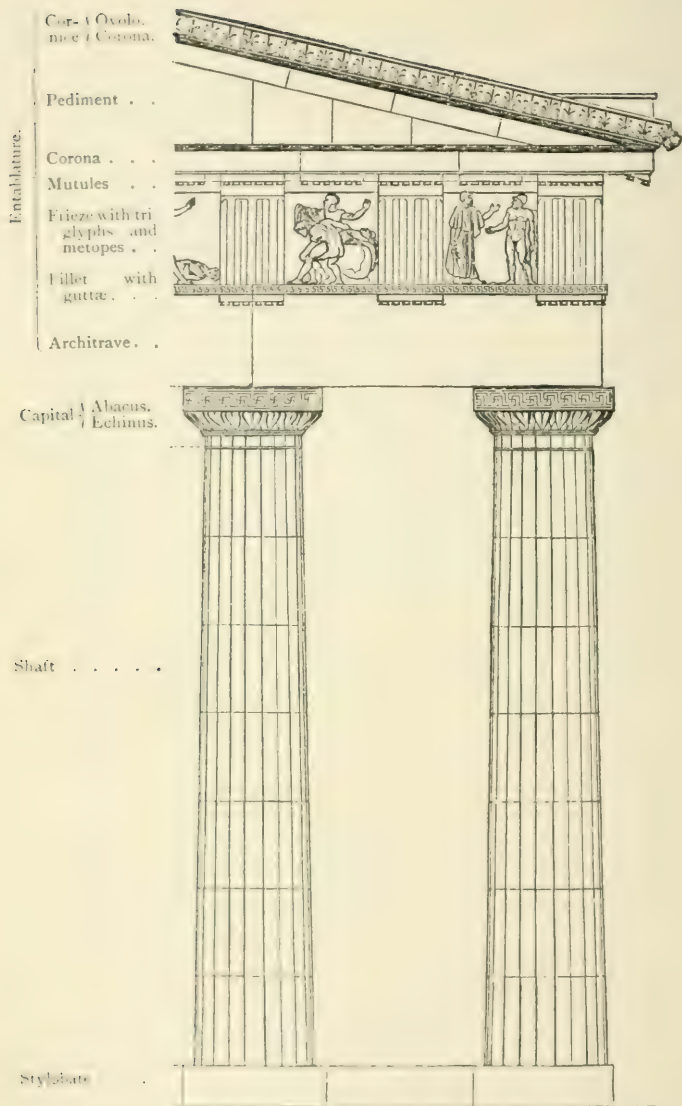


PLATE XVI.—Greek Doric Order from the Temple of Theseus, with the names of its divisions.

was the fear of ostentation at the expense of purity and elegance that all sculpture has been omitted from the pediment of the western portico and confined to the eastern or main entrance.

Under Pericles the Doric reached its most sublime expression. Yet it was by no means the influence of a single individual which wrought the victory, but simply the natural sequence of events in an extraordinary age. Every great revival in art has always been preceded by a revival in literature, and Greece was no exception to the rule. Under the skilful guidance of Æschylus, Sophocles, and Euripides dramatic writing had risen to a point scarcely since surpassed; history had been moulded into graceful form by Herodotus and Thucydides; and Socrates, Democritus, and Anaxagoras had startled the world with strange new thoughts and theories; while Plato whispered the truths of immortality in the gardens bequeathed by Cimon.

In the year 458 the Athenians were victoriously fighting in Egypt, Megara, Cyprus, Ægina, Phœnicia, and Peloponnesus, and the spoils of success were flowing in on every side. Hence with the material requirement arose the ambition not only to restore the temples which had been destroyed by the Persians, but to rebuild them and others on an infinitely grander and more beautiful scale.

High above the valley of Illysus, backed by the mountains of Pentelicus and Hymettus, rose the Acropolis or *rock city* of Athens, beautiful and calm, proudly overlooking the Bay of Phalerum and the Æginetan Gulf, and approached through a *propylæa* so exquisite and refined that the Greeks believed

Mnesicles, its architect, to have been divinely inspired, while above all, like a coronal of glory, stood the Temple of the Parthenon, or virgin (Plate XVII), the most perfect building in design and execution the world has ever seen.

Even Mr. Fergusson, a would-be enemy of the classic style, forgets all rancour when analyzing the Parthenon, and frankly asserts: "For intellectual beauty, for perfection of proportion, for beauty of detail, and for the exquisite perception of the highest and most recondite principles of art ever applied to architecture, it stands utterly and entirely alone and unrivalled—the glory of Greece and the shame of the rest of the world."*

The architects were Ictinus and Callicrates under the general supervision of Phidias, who designed and carved with his own hand the great gold and ivory statue of Pallas Athenæ within, and likewise had charge of all the sculptural decoration.

The architectural forms were simple as they were beautiful, consisting, like nearly all Doric temples, of a *stylobate* or platform divided into three steps and surmounted by a *cella* girt by columns, eight (carrying a gable or pediment) on each front, and seventeen on each side, every column being nearly six diameters in height. A vestibule at either end within the peristyle afforded a cool retreat for the faithful, and the whole interior of the temple was divided into two chambers (Fig. 48).

The roof was covered with marble tiles (see Fig. 49), and each pediment was filled with sculpture in

* Fergusson's Handbook of Architecture, book vi, p. 264.

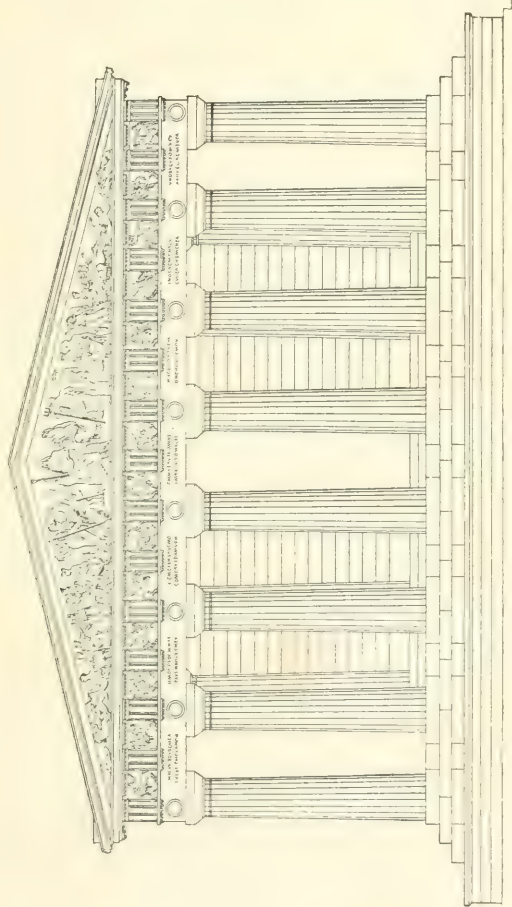


PLATE XVII.—Front elevation of the Parthenon, restored by Stuart and Revett.

high relief, one portraying Zeus presenting his daughter to the dwellers on Olympus, the other a contest between the virgin goddess and Poseidon for the naming of the city (Plate XVIII).

Ninety-two bas-reliefs, delicate as cameo carvings, filled the *metopes* or spaces between the triglyphs, and a frieze graven with the well-known Panathenæic procession extended all around the *cella* and vestibule, a distance of five hundred feet.

With these simple but eminently precious materials, wrought in Pentelic marble and grouped in a space two hundred and twenty-seven feet long by one hundred and one feet wide and sixty-one feet high, the Athenian architects composed the Parthenon. Yet it was not the grouping alone which gave the building its charm, but certain peculiarities generally invisible to the naked eye. Thus every vertical line in the building was slightly inclined toward an imaginary point, at which, if the end columns were produced, they would intersect—an expedient used not only to bind the whole firmly together and defy earthquakes, but also to subtilely suggest stability to the eye.

Again, each horizontal line or surface was somewhat curved or bowed, the lines of the ground plan slightly outward, those of the entablature slightly upward, and so on. A favourite instance of this curvature usually cited is when one of the measurers placed his hat upon one end of the upper step, and his eye on a level at the other, whereupon the hat entirely disappeared from view, on account of the convexity between.

These and other peculiarities, by no means con-



PLATE XVIII.—The pediments of the Parthenon.

fined entirely to the Parthenon, soon brought the Doric style great popularity throughout Italy, Sicily, Peloponnesus, and the islands of the Ægean, and beautiful specimens sprang up at Pæstum, Agrigentum, Bassæ, Delos, and other places. But none ever surpassed Athene's temple, which with Athens always remained the point of departure, from which emanated nearly all the good and the beautiful in Greek art.

From the year 432 B. C. (the date of completion) until 1687 A. D. the building remained comparatively



FIG. 53.—Group from the pediment of the Parthenon in the British Museum.

intact, notwithstanding that the Moslems built a small mosque within it. But in the latter year a shell from the Venetian artillery of Morosini ignited the powder magazine which had been conveyed into the sanctuary, and serious destruction resulted.

In the early part of the present century, under the Turkish rule, all the best sculpture was torn from the pediments and other portions, and Lord Elgin

gained permission to remove it to the British Museum (Fig. 53). One shipload was lost in the Mediterranean; the others arrived safely in London.

Yet, bombarded, mutilated, and despoiled, this ruin is still the most magnificent in the world, and no traveller to-day can ascend the Acropolis at sunrise and gaze at its soft, pink, beautiful lines inlaid against the blue Ionian air, and not feel their calm majesty and power, as well as the truth which underlay the prophecy of Pericles, namely, that "when the edifices of rival states would be mouldering in oblivion the splendour of this city would ever be paramount and triumphant."

THE IONIC ORDER.

The Ionic order (Plates XV and XIX) was so named on account of its almost exclusive use by the people of Ionia in their temples and other buildings.

Its most salient features were: Greater height and slenderness in the columns, an employment of spirals called *volute*s in the capitals, and the use of *bases*, a feature never seen in the Greek Doric, though frequent in the Doric of the Romans. Furthermore, the frieze was usually banded with sculpture in low relief, and the architrave with flat mouldings (Plate XIX), while an egg-and-dart decoration or a honey-suckle ornament, and occasionally a row of square projections, called *dentals*, mainly characterized the cornice.

Though it may be fairly inferred that the idea of the Ionic order was first suggested by the Assyrians, its course of evolution is less clear than that of the Doric; and though many critics date its first temple

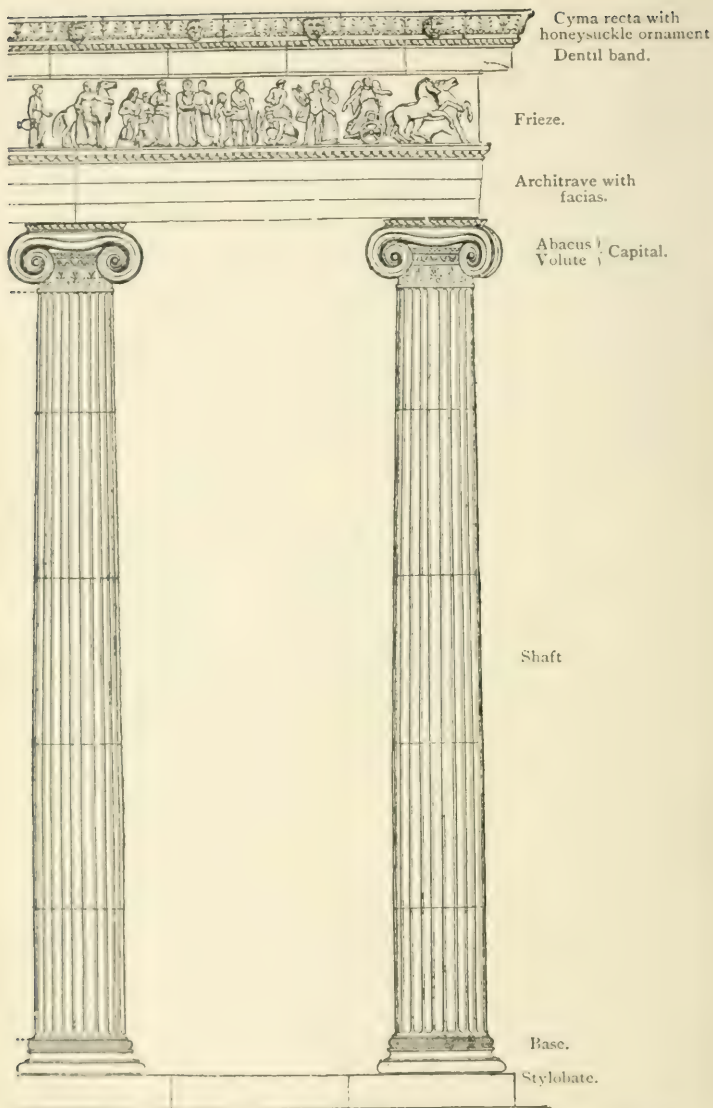


PLATE XIX.—Ionic Order. From the Erechtheion at Athens, with the names of its divisions.

as far back as 560 B. C., the date of the oldest existing example, namely, Niké Apteros (Fig. 54), can not be set down earlier than 469 B. C.

But whether the *colonnettes* of Nineveh (Fig. 40) or the clumsy capitals of Persepolis (before mentioned) supplied the model for the first Ionic order, and whether that order be old or young, certain it is that after the primary forms had passed through the alembic of the Greek mind the result was a thing as full of elegance and grace as the Doric was of majesty and refinement.

Of the splendid examples at Miletus, Teos, Priene, Samos, and in Magnesia, and of the great Temple of Diana at Ephesus by Ctesiphon (which covered more space than any Gothic cathedral at present in the world, except those of Milan and Cologne), nothing now remains but formless ruins, the Persian wars having very nearly exterminated the ruins themselves. But from the few specimens at Athens the style may still be studied from an architectural view almost as intelligently as though its prototypes in Ionia still existed. Let us pass therefore to the Temple of Niké Apteros or Wingless Victory (Fig. 54), which formed the right wing of the Propylæa and *pendant* to the Painted Chamber, a small building so called because of its adornment by the painter Polygnotus (the Hans Makart of his time), to whom even the daughter of Miltiades thought it no disgrace to sit as a model.

This temple, according to some authorities, was erected as a memorial on the spot where Ægeus committed suicide on seeing his son's ship return with black sails after the victory over the Minotaur. According to others it was designed without reference

to that site, and derived its name from the theory that victory had now come to remain with the Athenians, and so had no longer need of wings.



FIG. 54.—Temple of Niké Apteros or Wingless Victory at Athens.

A *cella* and two porches of four columns each are the principal component parts, forming a beautiful specimen of the Ionic order, though time has robbed

it of its cornice. But a band of bas-reliefs upon the frieze (a model of the sculptor's art) * makes one forget the deficiency ; and the tall slender grace of the

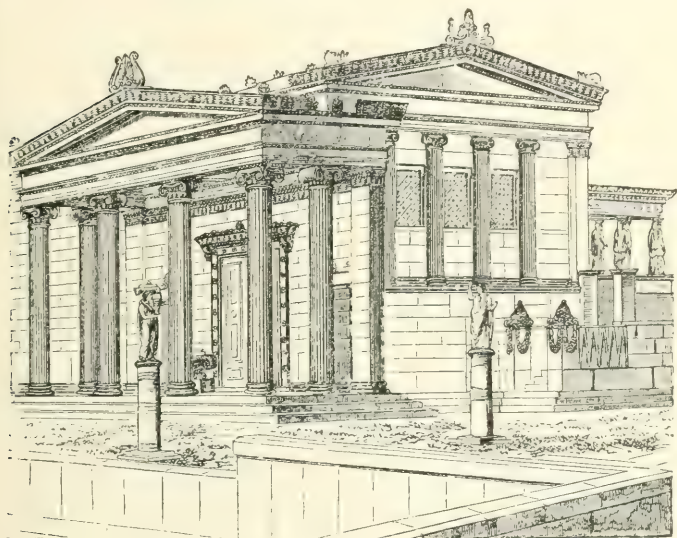


FIG. 55.—The Erechtheion at Athens.

columns with their nine diameters of height is quite as attractive in its own way as the splendid strength and inertia of the Doric supports of six.

Here also, as in all Athenian work, may be seen the admirable manner in which the Greeks composed with sunlight and all the enchantment contained in the play of light and shade. Every moulding pencils its own black line of contrast with sharp distinctness,

* This band of bas-reliefs has now been removed to the British Museum.

and the luminous lines of light along the shafts stand out boldly against the dark shadow painted by the portico.

All this and more may be likewise seen to advantage in the Erechtheion or Temple of Erechtheus (Fig. 55 and Plate XIX), the masterpiece of the Ionic style.

Owing to the triple arrangement of this temple (Fig. 56), and a rather obscure and discursive sentence in Pausanias, it was believed for a long time by Mr.

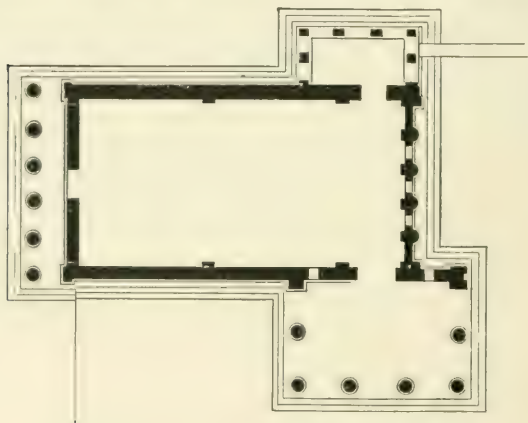


FIG. 56.—Plan of the Erechtheion at Athens.

Fergusson and others that the Erechtheion was in reality three temples united under one head and dedicated to Erechtheus, Pandrosus, and Minerva; but recent investigation has disclosed this to be only partially correct. The truth is that the Temple of Erechtheus, which once occupied this site, was entirely destroyed during the Persian wars, and that at the dedication of the present building it was only *twofold*;

the *western* portion (including the northern and southern porticoes) being sacred to the nymph Pandrosus, the deified daughter of Cecrops, while the *eastern* portion was consecrated to Minerva Polias, the guardian of the city, as always assumed.

The Erechtheion (which, however, for convenience we shall still continue to call it) held all the holiest and most deeply venerated relics of Athens. Here were kept the sacred Palladium or wooden statue of Pallas believed to have fallen from heaven; the sacred fountain and olive tree which sprang up at the command of Poseidon and Athene after their contention; likewise a folding chair fashioned by Dædalus, the scimitar of Mardonius, and the armour of Maesistius, who died charging the Athenian cavalry.

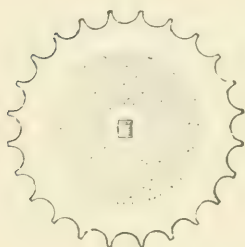
The general plan of the building is a *prostyle** temple flanked at the rear by two irregular-sized porticoes. Of this the Temple of Minerva Polias occupies only one chamber, entered at the east by an Ionic porch resting on a stylobate or platform having frieze and cornice emphasized in Eleusinian stone, a kind of black marble now turned gray with time.

The Temple of Pandrosus occupies the rest of the structure, and contains the rare feature of windows.† An exquisite example of the Ionic order frames the front porch, yet even this is slightly inferior in proportion to that of the western façade, where the spacing of the columns by two and a quarter diameters is held to be the ideal. But the gem of the

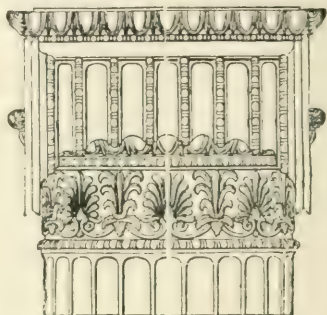
* *Prostyle* temple=temple with columns on the front but not on the sides.

† These windows are generally held to be an addition of later date.

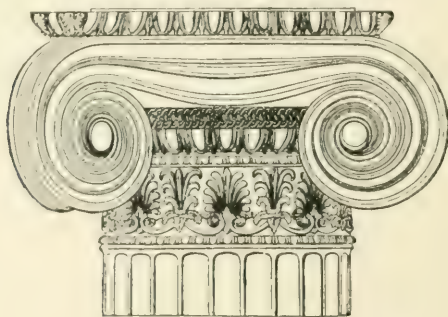
whole in the minds of many, though rather from a sculptural view, is the south or caryatid portico. In it the entablature is carried on the heads of six fair-



Section of shaft in Ionic column.



Ionic capital ; side elevation.



Ionic corner capital ; front elevation.

FIG. 57.—Details from the Eretheion.

headed women, wrought in Parian marble and called caryatidæ, a name derived from the Arcadian town of Caryæ, whose inhabitants sided with the Persians during the war. On them the Athenians took revenge, killing all their men and carrying the women

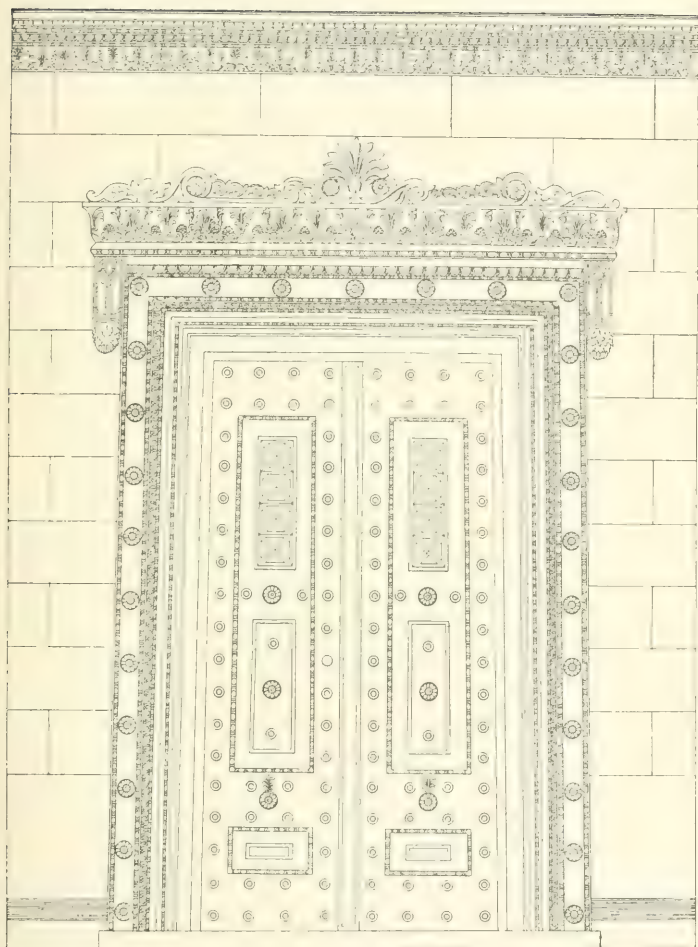


PLATE XX.—Doorway from the Erechtheion at Athens.

into slavery, which latter, in a sort of grim humour, they were fond of reproducing in their public buildings as bearing eternal burdens.

As regards the detail of the Erechtheion (Fig. 57), Stuart justly says: "Nothing can go beyond the workmanship of this temple. The ornaments throughout are of the most finished execution, and the sculptors seem to have derived all possible advantage that was afforded them by a material which

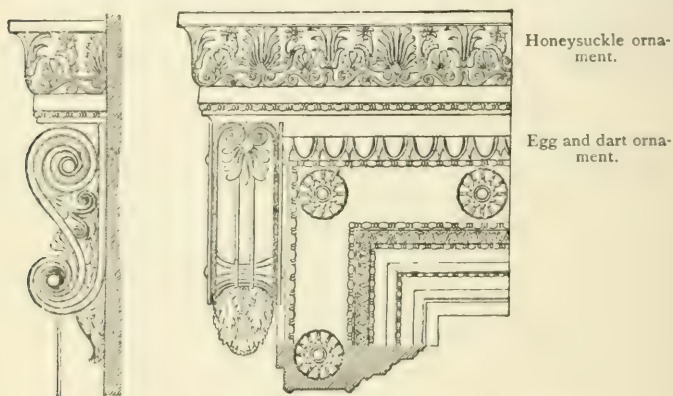


FIG. 58.—Details from the doorway of the Erechtheion.

admitted of being wrought with the delicacy of an ivory cabinet." (See door, Plate XX, Fig. 58.)

To compare the Erechtheion with the Parthenon would be as absurd as to compare the Venus of Melos with the Hermes of Praxiteles or an exquisite soprano with a sonorous basso. Their types of beauty are as far apart as those of the sexes; and it was a happy inspiration of Philibert de L'Orme when he called the Doric the *masculine order* and the Ionic the *femi-*

nine order, and cited the fact that, with the exception of the Parthenon, all Doric temples were dedicated to the *gods*, while the Ionic shrines reared their slender beauty in honour of the *goddesses*.

THE CORINTHIAN ORDER (Plates XXI and XV).

The most striking characteristics of the Corinthian order are *richness* and *magnificence*. And hence it became more popular with the Romans than with the Greeks, among whom comparatively few specimens still remain.

Vitruvius attributes the invention of the style to Callicrates, an architect, painter, and sculptor, who lived, according to him, during the middle of the fifth century B. C., but whose date history has since corrected to one hundred years later.

The fanciful tale of its invention is as follows, and relates how once a maid of Corinth loved a lithe-limbed Grecian lad of Sicyon or Argolis or other neighbouring state, but died before the wedding day could dawn upon her life; and how for weeks within the halls her tire-women wept, especially the helot nurse, who loved her as a babe. And she it was who wrapped her round and laid her in the grave, with lovelocks looped in tissue gold and lilies on her breast, yet placed no myrtles on the tomb, but gathered osiers from a stream and wove in gilded tapestry a basket such as holds the figs in purple harvest time. Within some pictured pottery was placed like that the maid had loved in life, and over all a crimson tile to fend it from the rain.

All these were laid upon the tomb, unheeding an acanthus root which pushed and fought its way be-

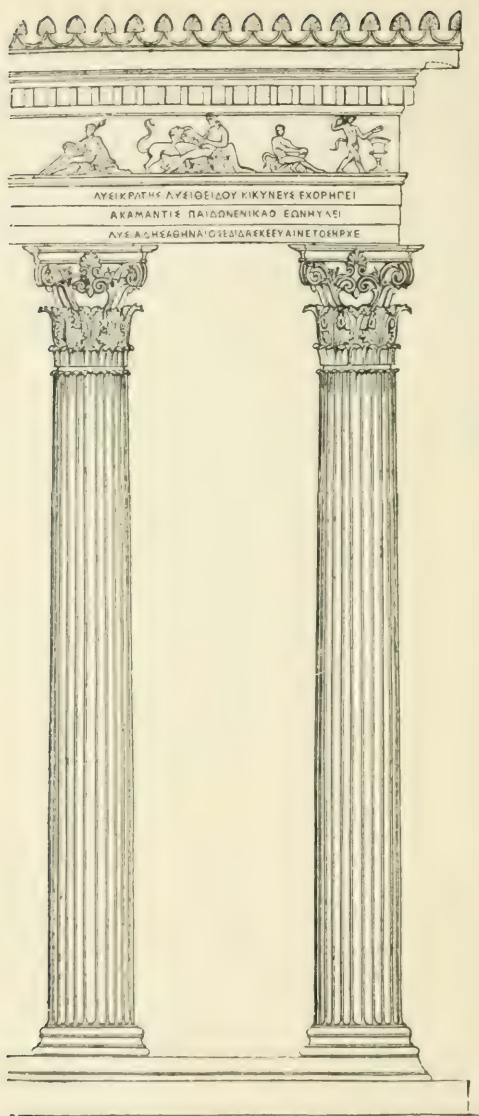


PLATE XXI.—The Corinthian Order

neath, and wove about the basket sides an intricate design of dark-green fretted foliage and evanescent gold. Reaching, it clambered till it touched the parietal top, then, curving downward from the tile, four graceful volutes formed. Which seeing, Callicrates (the sculptor of his age) did marvel and admire and so heartily approve,

That, running to his studio, with skilled-inspired hand,
He forged the fairest capital in all the Dorian land.

This capital consisted of two rows of acanthus leaves and one of volutes, surmounted by a square *abacus* or slab with slightly concave sides (Fig. 59). The column rose a diameter higher than in the Ionic order, and the cornice increased its mouldings and almost invariably carried dentals.

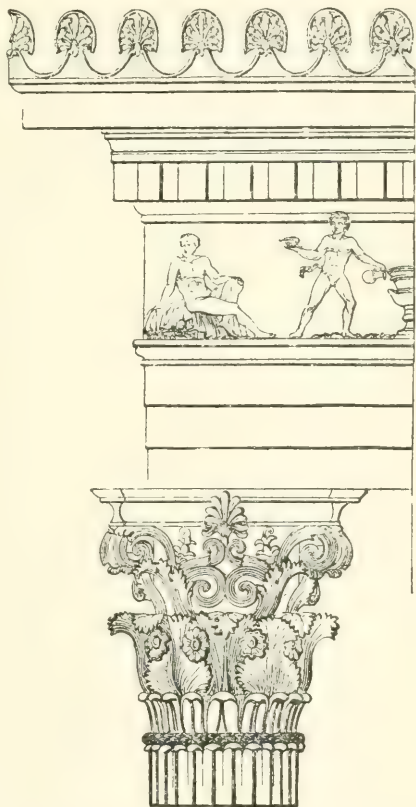


FIG. 59.—Detail from the Choragic monument of Lysicrates.

The most perfect expression of the Greek Corinthian order is to be seen in the Choragic monument of Lysicrates at Athens (Fig. 60). It formed part of a street composed entirely of temples dedicated to Dionysus by various victorious Choragi or patrons of dramatic art.

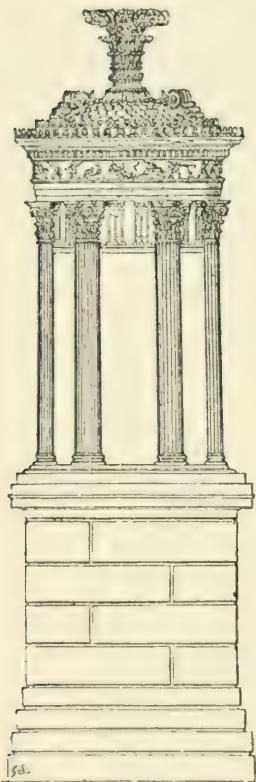


FIG. 60.—The Choragic monument of Lysicrates at Athens.

Each shrine or temple was surmounted by a finial, on which stood a bronze tripod; hence the street was popularly known as the Street of Tripods, and, if we may judge from the specimen handed down to us, it must have been one of the most beautiful highways of the ancient world.

The monument of Lysicrates (Fig. 60, Plate XXI) is a small circular building of the Corinthian order, resting on a high platform composed entirely of pure Pentelic marble. The slabs between the columns as well as the columns themselves are each hewn from a single block, and the architrave and frieze are also together of one piece.

A *tholos* or cupola, adorned with scales, forms the roof, which likewise supports a finial for the tripod, and an inscription gives the

raison d'être of the whole structure by telling that it was dedicated after the success of the choir of Lysicrates at the Olympian contest of 375 B. C.

It is customary to accuse the Corinthian order of being rather more sumptuous than elegant when compared with the Doric and Ionic. This is undoubtedly true. But it may also be said truly that the particular monument just described stands, in comparison to others of its kind, alone and quite unrivalled in any order or any age, the whole composition, execution, and detail being in most refined and exquisite taste.

The Tower of the Winds at Athens is another well-known example of the Corinthian order, though of later date. It is inferior both in design and execution, and so adds little to a comprehension of the style, while the other examples belong for the most part to Roman times.

THEATRE, CIRCUS, GYMNASIUM, AND MARKET.

A short distance from the monument of Lysicrates stands the theatre of Dionysus. This, like all Greek theatres, was placed on the northern slope of a hill in order that the hot rays of the sun might interfere as little as possible with the audience, all plays being performed during the daytime. Like other Greek theatres, it consisted of concentric tiers cut into the rock, provided with marble chairs, and ranged round an orchestra, where stood the chorus. Opposite rose the stage, elaborately decorated and provided with a promenade portico or *foyer*. The secret of the acoustic properties has never been clearly explained, but they were well-nigh marvel-

lous. Even to-day, as proved in experiments by the writer, the most ordinary conversational tone can be heard in any part of the building when uttered from the stage.

A more elaborate place of amusement was the *stadium*, or circus, an institution in almost every large Greek city where the public games and chariot races took place. Its shape was similar to that of the theatre, being circular at one end, where the judges sat, and square at the other; but the longitudinal axis was considerably longer* in proportion to the width.

Gaily coloured awnings probably protected the spectators from the sun, but the Greek *stadia* were by no means as luxurious as the Roman amphitheatres, where canopies of silk were stretched on Venetian masts, garlanded and joined by festoons of flowers, and where the air was made cool with sprays of perfumed water from concealed tubes, while the seats of the patricians and wealthy were cushioned in silk or cloth of gold.

All Greek cities likewise possessed a *palaestra* for the youth and *gymnasia* for those arrived at man's estate. The latter were provided with hot and cold baths and rooms for anointing the athletes, who smeared themselves with oil and sand before their contests. A colonnaded portico surrounded the buildings, about which was a pleasance. Here racing, throwing the discus and dart, wrestling, boxing, and the *pankration* were indulged in, the last be-

* A *stadium* was a unit of length measuring six hundred Greek feet, or about six hundred and three English feet. Hence the name given to the Greek circuses, nearly all of which were about six hundred feet long.

ing a combination of kicking, biting, boxing, butting, gouging, and wrestling all in one.

But of all the buildings in a Hellenic town, the most striking structure after the temples was the *agora*, market or bazaar. It consisted of an enormous public square, surrounded by a marble peristyle beautifully frescoed and adorned with statuary from the hands of the best masters. Here besides the native products were the webs of Tyre and costly stuffs sold by merchants from Miletus; ivory and spices from Cyrene and the south; slaves and timber from Macedonia and Thrace; Samian pottery, Egyptian glass, and corn from the shores of the Euxine; while lamps, jewelry, scimitars, musical instruments, and even groceries, were all bartered and sold within a mighty marble court worthy of an emperor.

PRIVATE DWELLINGS.

The external simplicity of Greek private dwellings contrasted most efficiently with the imposing appearance of public works by affording an admirable foil.

While public buildings had columns on the *outside*, and seldom within, private houses exactly reversed the arrangement and confined their columns to the *inside* courts. So universal was this custom that it was deemed vulgar and ostentatious in a private citizen to do otherwise, and Demosthenes points with scorn to an individual who used columns on the outside of his home.

However, prejudice permitted a porch before the houses of the rich, thereby giving a somewhat more hospitable character to the street side, which other-

wise would have been almost a blank, for *thurides*, or windows, were only used on the second story, when such existed, most city dwellings being only one story, surmounted by a terrace.

The plan was composed of a colonnaded court surrounded by the men's apartments. The women's quarters were placed at the back, as in Assyria, so also was the bedchamber of the master and mistress. All rooms after 400 B. C. were frescoed in the manner made familiar to us in Pompeii. The furniture consisted of couches with movable cushions, tables with movable tops, rich Oriental carpets and bronze tripods, braziers, lamps, and candelabra, the last being especially important, since the ground-floor rooms were only lighted by the doorways opening on the court.

Large city houses boasted a second courtyard, round which the women's apartments were grouped like those of the men, and banqueting halls afforded accommodation for singers and musicians. The men reclined on couches and the women sat on chairs while eating, as in Nineveh and other Oriental cities.

Such was the city house of a Greek gentleman, and the country villas differed little from this. Indeed, there was small chance for evolution in that direction, for country life was very unpopular in most Hellenic provinces on account of disturbances by invasions and pirates, the only exceptions being in Attica and Elis; Attica, on account of its splendid fortifications and fleet, which guarded against sudden attack and so afforded time to escape to the cities; and Elis, because it was held sacred and hence free from attack by the other states.

It was in Elis that Xenophon retired after his fighting days were over and lived and fought his battles again on paper to puzzle the young and delight the old of later generations, and here many another Athenian found immunity from care and public life and dreamed the rest of life away in this the ancient home of Endymion. But, as might be expected, conservatism ruled among these gentry and no architectural innovations were attempted. Before leaving the subject of Greek architecture a word should be said concerning the sepulchral buildings.

In primitive days dead bodies were thrust into the ground near the house of the deceased; this disposition of the remains was manifestly unhealthy, supplying, as it did, a solution of the departed in the drinking water of the family, and hence a law was soon passed forbidding burial inside the city walls, except in the case of heroes like Theseus, when a temple or shrine was erected to receive them. Therefore most people were interred in tombs placed along some road leading to a populous suburb, a fashion followed by the Romans in the Appian Way.

The earliest examples of these tombs were simply earth mounds, then a circle of stones was added as a decoration; later, subterranean passages were cut, and family vaults were introduced; and finally splendid memorials of marble, having a high architectural value, were erected.

Of these, the monument raised by Queen Artemisia to her husband, Mausolus, at Halicarnassus, was the finest of the ancient world, and gave the name of mausoleum to all tombs and monuments of like character down to the present day.

In early days it was customary to kill and bury a number of slaves with their master, but in later times this was discontinued, and offerings were confined to figurines, vases, pottery, and things loved in life by the absent one, as cited on page 171. If a Greek died in foreign lands his body was burned and the ashes conveyed home to be interred with ceremony; but the corpses of criminals were thrown carelessly into a natural ravine, called the *Barathrum*, near which dwelt the executioner.

In looking back over the history of Greek architecture one cannot help being struck by the entire absence of self-glorification and the loftiness of purpose silently displayed. As Mr. Van Brunt says: "Erostratus, the fool who burnt the Temple of Diana at Ephesus, is far better remembered in history than Ctesiphon, the architect who built it." The artist never sought advertisement, but vowed himself to his task with all the unselfishness attendant on an act of worship. *To look at Nature, see only the best, and make it immortal.* This may justly be called the mainspring of all Hellenic thought, taste, and feeling.

When the Greek sought inspiration he did so with a mind attuned to all the harmonies of form, colour, motion, sound, and poetry in Nature, and interpreted the latter not *literally*, but *ideally*. Limitless perspectives of beauty opened out before him, and life sprang up a warm, joyous, vibrant thing, alluring to the love of man, impossible to the dullard *doctrinaire*, whose morbid analysis only betrays life's mistakes and encourages *imitative ugliness* rather than *creative loveliness*.

Yet this very loveliness has caused those in high places to call Greek art untrue, and even immoral. But surely "the real immorality of art is ugliness," and if we eschew that, the artistic conscience will not suffer much.

On the other hand, to see noble straightness in the lithe-limbed athlete, tender graceful lines in the foliage of trees, folded ivory in the petals of a flower, and warm purple tones in the swift, elusive shadows, are not these fairest truths? The Greek at least thought so, and held them but the commonplace in a land teeming with nymphs, naiads, Dorian music and soft Ionian laughter—a land in which to create was simply to curb the restless rush of lofty inspiration and to subdue all into dignity with simple heroic lines.

CHAPTER VII: ETRURIA AND ROME.

ETRURIA.

ETRURIAN architecture owes its origin to the aboriginal inhabitants of the country and to enterprising colonists from Asia and Greece: a precious, though

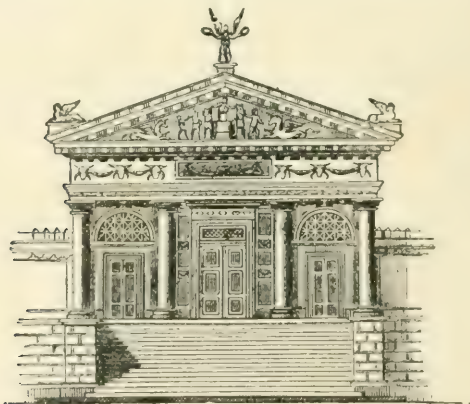


FIG. 61.—Elevation of Tuscan temple, restored from descriptions.

imperfect, product of art, confined (as we know it) to *city walls, temples, and tombs*.

The first resemble the ramparts of Mycenæ, and may still be seen at Cortona, Volterra, and Fiesole. The second exist only in literature, while the tombs

have been rifled of their bronzes, jewels, and pictured pottery, and now only arrest the attention of the antiquarian.

But Etruria taught Rome, and hence commands consideration.

Though no temples have been preserved, we know from Vitruvius that they consisted of a *cella* or chamber divided into three parts, preceded by a portico of the Tuscan order (Fig. 61). From the same source we learn that the origin of the Tuscan order was as follows:

“The Greek colonists, having brought to Etruria their acquaintance with the proportions of the Doric order, . . . employed this order during a long period in the same manner as in the country where it originated. But after a time they changed it in several respects; they lengthened the column, added a base, altered the capital, and simplified the en-

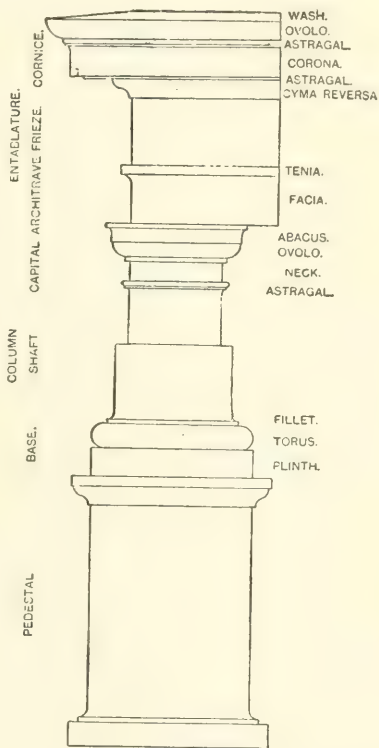


FIG. 62.—The Tuscan Order, its divisions and the names of its mouldings.

capital, and simplified the en-

tablature ; and, thus changed, it was adopted by the Romans under the name of the Tuscan order " (see Fig. 62).

The tombs of Etruria are of two kinds, rock-cut and tumular.

The first consist of stone chambers cut into the cliff, like the tombs at Beni-Hassan (Fig. 4), in Egypt ; or they are similar chambers entirely excavated so as to stand free (Fig. 63), like the temples of Ellora, in India (Fig. 19). Each is entered by means of a doorway of Egyptian character adorned with a Greek architrave, and those standing free were presumably surmounted by pyramidal roofs. The finest examples



FIG. 63.—Etruscan tomb at Castel d'Asso.

are in and about the honey-combed cliffs of Castel d'Asso, with walls richly decorated internally with painting and sculpture.

Pliny has left us an account of the tomb of Lars

Porsena, of Clusium, carved in this manner about 500 B. C., but the verbiage of the description is so involved that no antiquarian has yet identified the original.

The tumuli are mounds erected on circular foundations of masonry above one or more receiving vaults.

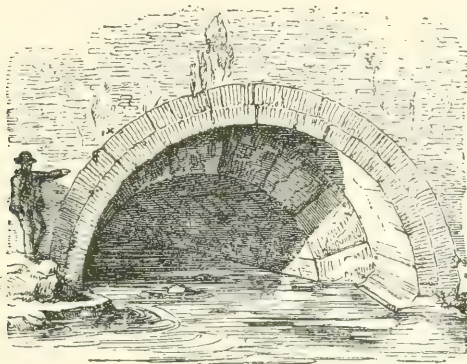


FIG. 64.—The Cloaca Maxima.

All are earthen cones like those found among the Tartars and the primitive nations of northern Europe.

Large numbers are to be found near Vulci, where stands the tumulus of Cocumella, the largest yet discovered. The interior chambers of those belonging to an early date are vaulted on the horizontal principle, like the Treasury of Atreus and that at Orchomenos, in Greece, and in them were deposited a quantity of gold and bronze ornaments and utensils, most of which have now fallen into the hands of plunderers and greedy collectors.

After a time the Etrurians relinquished the use of vaulting on the horizontal principle and adopted the

semicircular vault of wedge-shaped stones called *voussoirs*, in which all the joints converge to a common centre. This early use of the *true principle of the arch* led subsequent nations to attribute its invention to the Etruscans; but recent investigations, as before stated, have proved it to have been employed both in Egypt and Assyria long before.

What the Etruscans *did* do, however, was to teach the principle of the arch to the Romans, thereby leaving a legacy which has become the mainspring of all modern European architecture.

The finest example of Etruscan vaulting extant is the Cloaca Maxima at Rome (Fig. 64), built in the reign of Tarquinius Priscus; it is composed of three tiers of concentric arches, all of which are laid up dry without cement, and stands as one of the greatest feats of engineering handed down to us from the ancient world.

ROME.

Introduction.

Roman building art was the architectural offspring of Etruria and Greece. To Etruria, Rome owed the arch, vault, and Tuscan order; to Greece, the Doric, Ionic, and Corinthian orders; and the adaptation and amalgamation of these elements resulted in the Roman style.

Having little creative genius, the Romans acquired their art in much the same way that they acquired their provinces—that is, by conquest. In addition to the architectural heritage from Etruria and Greece, all tributary nations were despoiled of their artistic treasures, and the riches of the world poured

into the Eternal City to enhance and embellish her palaces, temples, circuses, and public baths.

Peace at home and power abroad resulted in a love of splendour and ostentation, rather than in the refinement and simplicity which were the main characteristics of the Greek taste. Hence the Doric and Ionic orders were used but little, while the sumptuous Corinthian order not only found favour throughout the empire, but was usually proportioned on a vastly larger scale than its Greek prototype. In a word, the Romans mistook mass for majesty and ornamentation for richness. To obtain the greatest effect at least cost became the primary object. Hence the walls of their palaces and baths were constructed by building exterior faces only, and filling up the intervening space with broken stone, cement, and mortar, while the whole exterior was veneered with thin slabs of marble in order to present an imposing and glittering façade.

Love of display caused further the erection of thousands of buildings throughout Rome and the Campagna in an incredibly short period of time, the natural result of which was a mechanical stiffness of design, a sure product when art is guided by geometry and rule rather than the combined forces of taste, spontaneity, and reserve.

Thus while the profile of Greek mouldings were segments of ellipses of delicate flexure and executed to a certain extent free hand, the Roman mouldings were always segments of circles, having the painful exactitude that suggests the compass.

It must not be imagined, however, that the Romans were not an architectural people, as they were

extremely skilled in all matters pertaining to *construction*. Their aqueducts, which extended for miles, were executed in a manner never since surpassed, their vaulting spanned the most prodigious spaces, and their buildings exceeded in scale and number anything hitherto recorded in the annals of architecture. They excelled also in their cements, which not only possessed the quality of extreme adhesiveness, but also that of adamantine hardening with time, and to such an extent that many Roman buildings, when it became necessary to destroy them, were found to be practically monolithic.

To this slight introduction it is only necessary to add that Roman architecture contains the germs of all the building arts of the Middle Ages; that *to* it we owe the style of nearly all our public buildings; and that *from* it we may learn the great lesson, that though all the wealth and riches of civilization be ready to our hand, the noblest designs are not evolved from splendour and magnificence, but from purity, refinement, simplicity, and *good* taste.

The Orders.

From 753 B. C. to the expulsion of the kings Rome was practically Etruscan, and for five hundred years thereafter, under the consular *régime*, little architecture worthy of the name was erected. But with Carthage conquered, Egypt subdued, and Greece a Roman province, the old order changed. Architects, sculptors, painters, and artificers of every description, fired by ambition, flocked to Rome as to a fountain of gold, glory, and greatness; and soon the Eternal City set the fashion to all countries belting the Levant, and

codified her architectural laws, as she did her political decrees, into forms or orders easy of adaptation abroad.

The Roman orders are five in number—i. e., Tuscan, Doric, Ionic, Corinthian, and Composite.

The Tuscan (Fig. 62) has been already described. Its severe simplicity found little favour in Rome under the emperors. The Doric (Fig. 65) resembled the Doric of Greece save for the addition of a base, supplementary mouldings upon the capital, and certain slight changes in the ornament of the frieze. Its use was mainly confined to arcades in forums and court-yards, purposes which it fulfilled very acceptably; but that it was vastly inferior to its Hellenic prototype seems to have been recognised by the Romans themselves, since they used it but sparingly.

The *Ionic* and *Corinthian* orders (Plate XXII, Figs. *a* and *b*) were merely modifications of the corresponding orders in Greece. Both lost a certain amount of refinement under Roman manipulation; but with this dif-

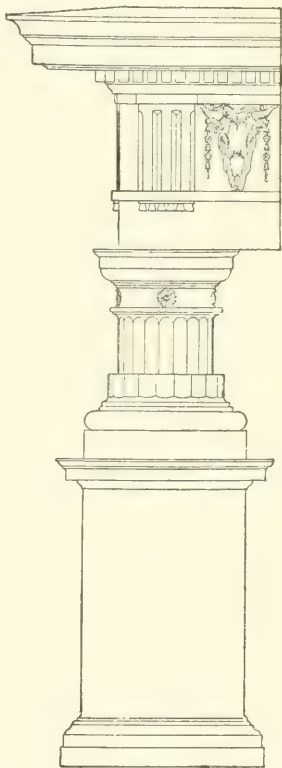


FIG. 65.—The Roman Doric Order.

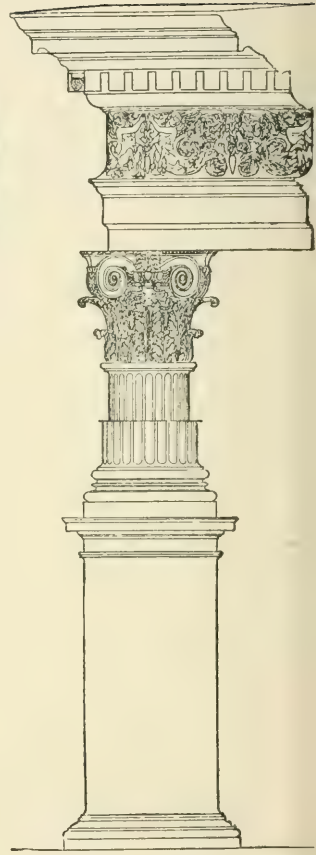
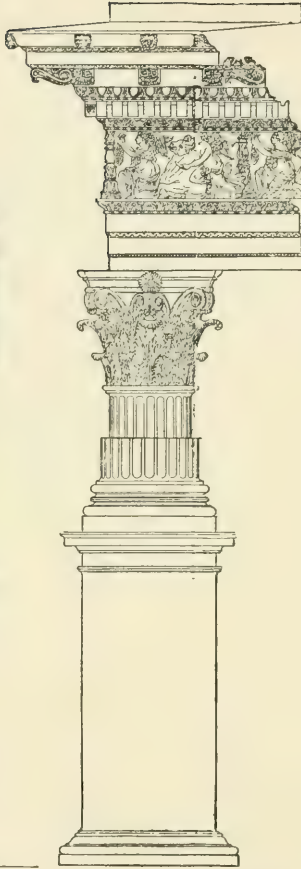
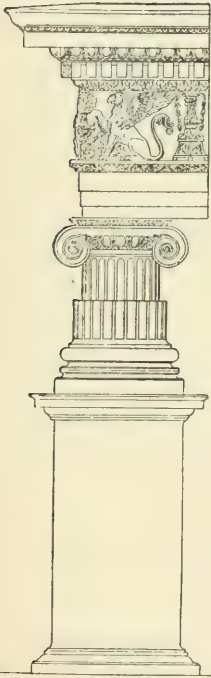


Fig. *a*.—Roman Ionic Order.

Fig. *b*.—Roman Corinthian Order.

Fig. *c*.—The Composite Order.

ference, that whereas the Corinthian made good the loss, to a certain extent, by a development of strength and magnificence, the Ionic gradually deteriorated into a somewhat characterless imitation of the original, until it reached its nadir in the Temple of Saturn, in the Forum.

In the Composite order (Plate XXII, Fig. c) the Romans retained the proportions of the Corinthian, and composed the capital by combining Ionic volutes and Corinthian acanthus leaves. As a style it never achieved much popularity, and from its union of forms, so dissimilar as Ionic and Corinthian details, it has been generally adjudged illogical. Yet it is only by comparison with their Greek prototypes that the Roman orders suffer. They have stood well the test of time, and a thorough knowledge of their details and proportions is indispensable to every designer.

Roman Buildings.

Roman buildings consist generally of temples, baths, palaces, amphitheatres, aqueducts, theatres, triumphal arches, tombs, basilicas, and private dwellings. Of these, the last mentioned claim first attention.

A Roman dwelling of the middle class resembled that of the Greeks in having a number of apartments grouped about an interior colonnaded court called the *atrium*, in the centre of which stood an *impluvium* or water basin to receive the rain (Fig. 66). The apartments consisted mainly of bedrooms, banqueting rooms, vestibules, and halls. The women's quarters were not separated from those of the men, as in Greece.

Externally, the architectural treatment was extremely simple, for the Roman regarded his home as a place to be lived in, and not to be looked at from the outside ; and hence it consisted only of a portico and bare walls pierced with an occasional window.

Internally, however, the mural portions were richly frescoed and the floors were adorned with elaborate pictorial mosaics, squares, or polished poly-

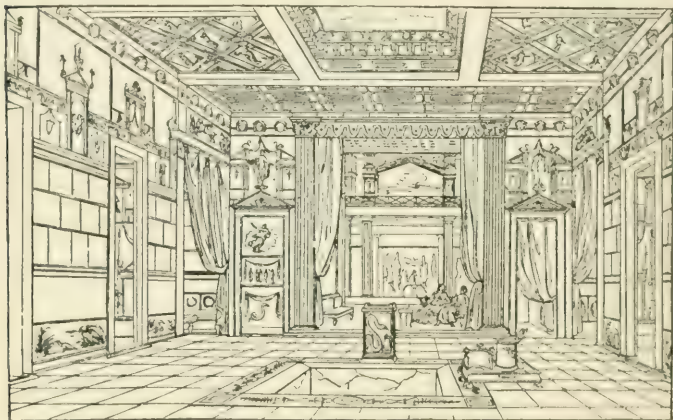


FIG. 66.—Atrium of a Pompeiian house.

gons of precious marble. Statues of gods, ancestors, and heroes were grouped about the rooms and halls ; and masks (*imagines*) of distinguished members of the family decorated the frieze, and peered from *amaria* or open presses on the walls. The best examples of Roman dwellings remaining to us are those of Pompeii (Fig. 66) and the "house of Livia," on the Palatine.

It only remains to mention the furniture, which

included tables, chairs, couches, lamps, tripods, and alcove beds not unlike our own. The dining tables were of two kinds, square and round. The first was surrounded on three sides by the cushioned couches (*lecti*) of the guests, leaving the fourth side free for the operation of serving. Each couch accommodated three persons.

Round tables, resting on a single column, did not come into vogue until toward the end of the republic, and, being made of rare and costly woods, were extremely expensive. Indeed, Cicero, who was no spendthrift, thought it proper to expend twenty-five thousand dollars on his own, which in that day was a fortune.

Chairs were of various shapes, from the simple three-legged stool to the elaborately carved high-backed *solium* of the *paterfamilias* with its foot rest. Then there was the ivory-plated curule chair of magistrates, with carved crossed legs, and the softly cushioned *cathedra*, with its rounded back, reserved originally for women, but afterward used by all lovers of luxury; while other forms and adaptations of these in stone, metal, and wood, contributed to domestic comfort.

Of Roman palaces only two specimens remain to us: that of the Cæsars on the Palatine hill, now completely ruined, and the abode of Diocletian at Spalato, in Dalmatia, to which the emperor retired to spend the autumn of his life.

Both must have been classed among the most gorgeous abodes of early civilization, and though architecturally inferior to some of the baths, were certainly among the wonders of the Roman world.

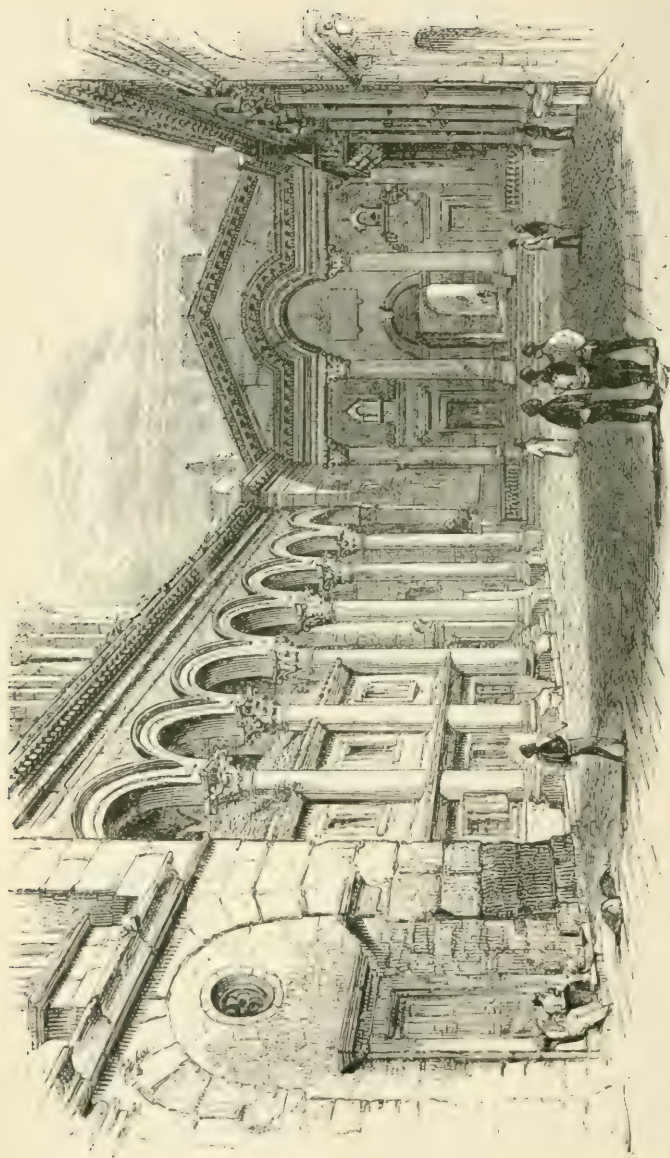


PLATE XXIII.—Portion of arcaded street in the palace at Spalato.

The palace at Spalato (Fig. 67) was a great fortified building, rectangular in shape, covering nine acres of ground. Sixteen towers flanked the sides, which were plain externally save the southern portion, facing the sea, as that quarter was less liable to attack.

The Golden Gate, or principal entrance, opened upon a great arcaded street (Plate XXIII), which

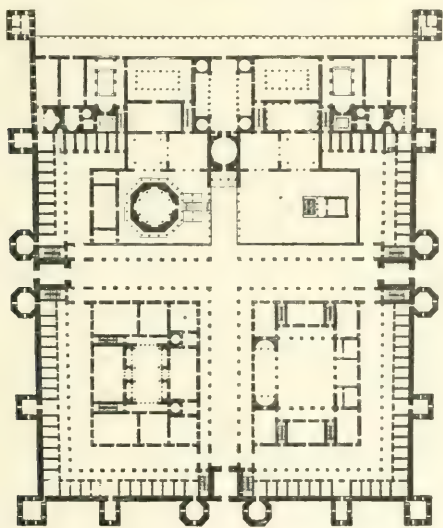


FIG. 67.—Palace of Diocletian at Spalato.

was crossed at right angles by another similar street leading from the brazen and iron gates, thus dividing the whole edifice in four equal parts (Fig. 67).

The northern portion has been so mutilated that the truth of restoration becomes problematical; but the whole southern portion (Plate XXIV) is still fairly



PLATE XXIV.—Southern portion of palace at Spalato.

intact. This section was devoted to the palace, and contained a magnificent suite of state apartments overlooking the water, the Temples of Vesta and Æsculapius, the great baths and private rooms of the emperor, and a superb seaward gallery extending five hundred and fifteen feet in length.

Ostentatious though Spalato must have been, it was certainly vast, strong, and splendid; and its very size and treatment give us "a most exalted idea of what the splendour of the imperial palace at Rome must have been."

Temples.

Roman temples were by no means confined to the Latin capital, nor indeed to Italy itself.

Numberless examples were scattered over southern Europe, western Asia, and northern Africa; and the ruins of many splendid specimens still exist at Baalbec, Palmyra, Nimes, Athens, and other foreign cities that came under the Roman yoke.

The temples in the city of Rome, however, are sufficiently typical to illustrate the beauties and peculiarities of all, and so we will confine our discussion and description to the examples in the Eternal City alone.

Nearly all these temples resembled those of Greece in consisting of a vestibule and *cella* raised upon a stylobate and preceded and surrounded wholly or in part by columns.

Among the most beautiful was the octostyle Temple of Jupiter Stator, in the Forum, only three columns of which now remain. Its style was Corinthian and peripteral (Greek, winged around), i. e., the *cella* was surrounded on all sides by a colonnade. The

height of the building from the base to the apex of the pediment was about equal to the extreme width, and

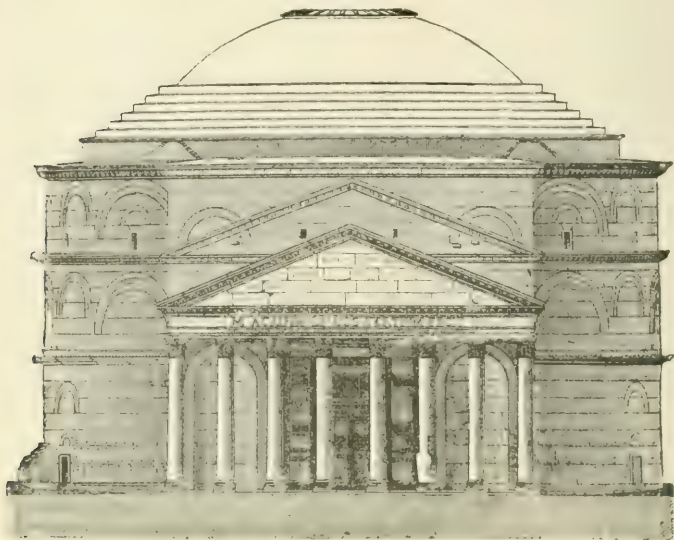


FIG. 68.—Elevation of the Pantheon at Rome.

the columns measured about ten of their own diameters, which is held to be the ideal proportion for the Corinthian column.

Another temple of the same style, though of smaller dimensions and less pretension, was the hexastyle Temple of Jupiter Tonans, erected by Augustus in commemoration of his escape from lightning when a slave was struck dead at his side. A third fane of the same class was the Temple of Antoninus and Faustina, one of the purest of Rome as regards taste and distribution of ornament.

All these belong to the Corinthian order, the

most popular in Rome, though the Ionic style was not without representation as well.

The great Roman masterpiece of temple architecture, however, was, so far as we know, the Pantheon (Figs. 68 and 69), and certainly it is the most important Roman building still extant. It was dedicated to all the gods, and is supposed to have been built by Marcus Agrippa. Its composition includes a circular *cella* preceded by a *pronaos* of sixteen Corinthian columns, eight being on the front, like the Temple of Jupiter Stator (Fig. 70). The roof is an immense dome, having an aperture at the apex for

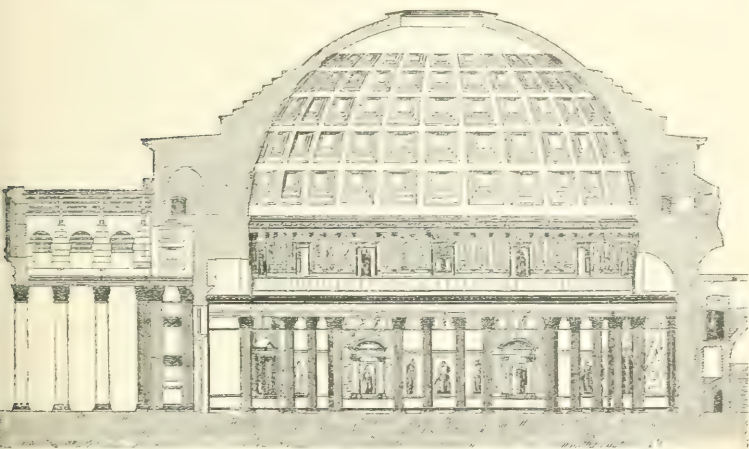


FIG. 69.—Section of the Pantheon at Rome.

light, and as the building has no windows, this one means of illumination is shared by seven chapels as well as the entire edifice.

Though the Pantheon is supposed to have been built in the reign of Augustus, it was restored after

the conflagration by Hadrian, and later, in 202 A. D., by Septimius Severus; nevertheless it stands as one of

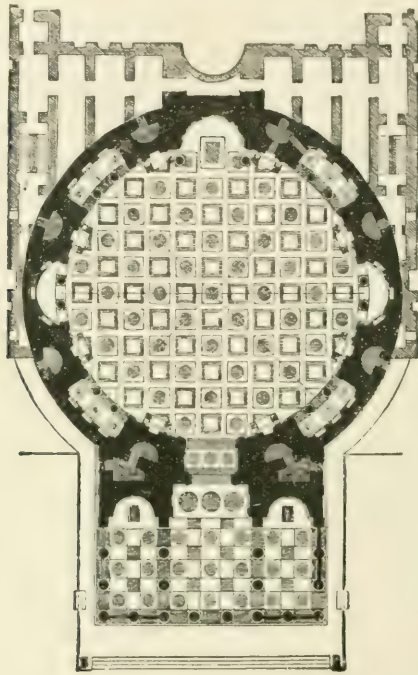


FIG. 70.—Ground plan of the Pantheon at Rome.

the great legacies of the ancient world and still performs its duty as a house of God.

Triumphal Arches and Columns.

Whenever a triumph was decreed, it was the custom of the whole Senate to march forth to the Porta Capena, or entrance to Rome by the Appian Way, and from thence to escort the conqueror beneath

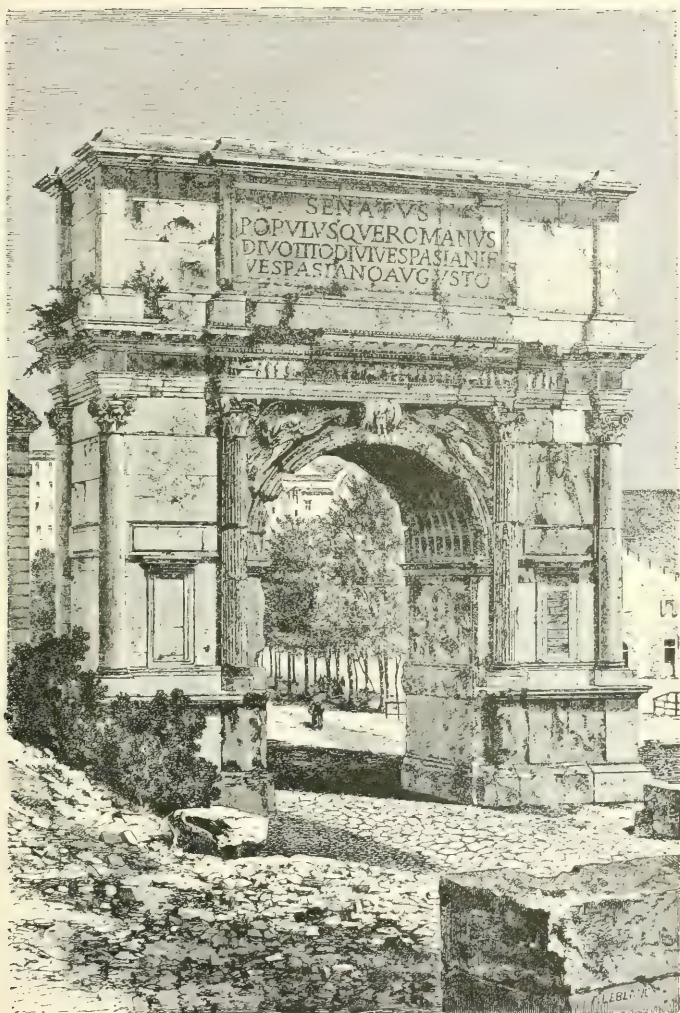


PLATE XXV.—Arch of Titus.

triumphal arches through the city, and if the hero chanced to be an emperor or sufficiently influential, a special arch was dedicated to him.

The Romans were the first people to erect this form of monument, unless we consider the red-arrow

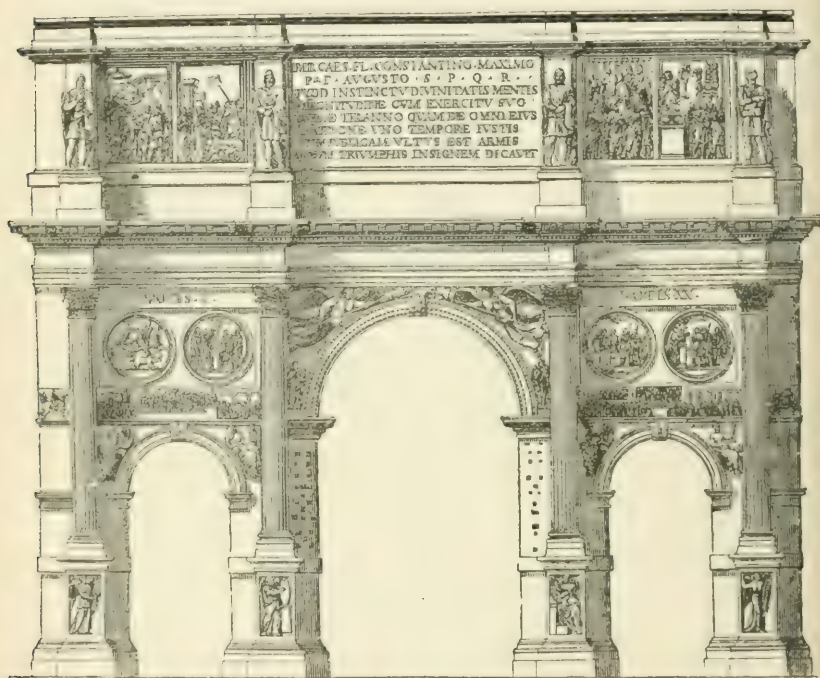


FIG. 71.—Arch of Constantine.

gates of the Tartars, and their *earlier* examples were very simple, consisting only of an arch surmounted by a statue of the victor; but after a time the ornamentation became more and more elaborate and all detail was designed with the aim of glorifying the hero.

This means of advertising posterity to futurity soon made triumphal arches not only popular, but plentiful; and most of the important cities of Latium, who could gestate a great general, erected a monument of this description.

Among the more important are those of Titus (Plate XXV), Constantine (Fig. 71), and Septimus Severus at Rome, of Augustus at Rimini, and of Trajan at Benevento.

The two first are the best known; that of Titus was erected in commemoration of the emperor's conquest of Jerusalem and Syria, and hence no Jew ever passes under it. In composition it consists of one opening framed by the Composite order, and is said to have been the first arch ever erected in which that order was employed. The bas-reliefs show the ark and seven-branched golden candlestick and the emperor in his *quadriga*, while the attic bears a fine apotheosis embossed upon its front. Another mode of doing

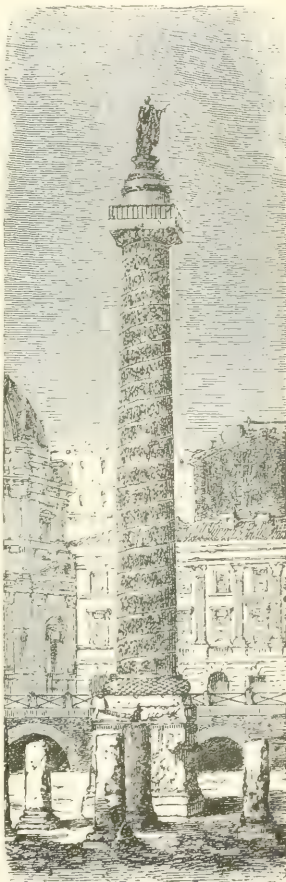


FIG. 72.—Column of Trajan at Rome.

honour to heroes and emperors (who of course were heroes so long as they lived) was by erecting votive columns. The most celebrated columns of Rome were those of Trajan (Fig. 72) and Marcus Aurelius; both were of the Doric order, and both are still extant.

The column of Trajan is particularly interesting as having furnished the model for the *Colonne Vendôme* at Paris. It was erected in honour of the emperor's conquests in Dacia. A ribbon of sculpture winds round the entire shaft, setting forth the principal events of the campaign. A wreath replaces the torus at the base of the column; trophies decorate the pedestal, and four eagles at the corners carry garlands of laurel; while high above all upon the top once stood the statue of Trajan, now replaced by one of St. Peter.

Besides their votive uses, columns were also employed by the Romans as military boundaries and for the inscribing of legal notices.

Aqueducts.

Aqueducts *de natura* belong to the province of engineering, but the Roman aqueducts easily rise to the dignity of architecture.

Their office was to convey large quantities of water over unequal ground from great distances, and thus to supply the public baths and countless residences of the rich. Mountains were tunnelled by cylinders of masonry punctuated at intervals by man-holes; and plains were spanned by endless arcades, built often two and three stories in height in order to preserve a constant grade.

According to some authors the first Roman aqueduct was built in the reign of Ancus Martius, while others attribute the first to Appius Claudius. One of the most remarkable, however, was constructed in 312 B. C. It began thirty-three miles from Rome, carried large quantities of water on a series of arcades, and for a straight stretch of thirty miles averaged seventy feet in height. This great conduit had three different channels, one above the other, and drew its water from as many separate sources.

Under Nerva the aqueducts of Rome numbered nine, and carried 1,320,520 cubic metres of water into the city per day, which is considerably more than the amount supplied to New York at present.

Baths.

From aqueducts to baths the transition is easy; but the leap artistically is great, as the baths hold architectural rank second only to the amphitheatres.

At the eighth hour of the Roman day the bell of the public baths was rung in token that all was prepared, and a general rush ensued among the population in order to enjoy their passive luxury.

In the early days these baths consisted only of two rooms, one for a warm bath, and another for a cold plunge; and like those of Japan to-day were many, but simple, and intended solely for the practical purpose of getting clean.

As time wore on, however, and the spoils of a conquered world flowed into Rome, these resorts grew more and more luxurious until, under the emperors, we find them not only containing all the appointments of modern Turkish and Russian baths,

but libraries, picture galleries, gymnasia, administrative rooms, gardens with lawns and shady trees, and frescoed halls of sculpture whose value may be gauged by the fact that in them the groups of the Laocoön, Farnese Bull, Gladiators, and similar masterpieces

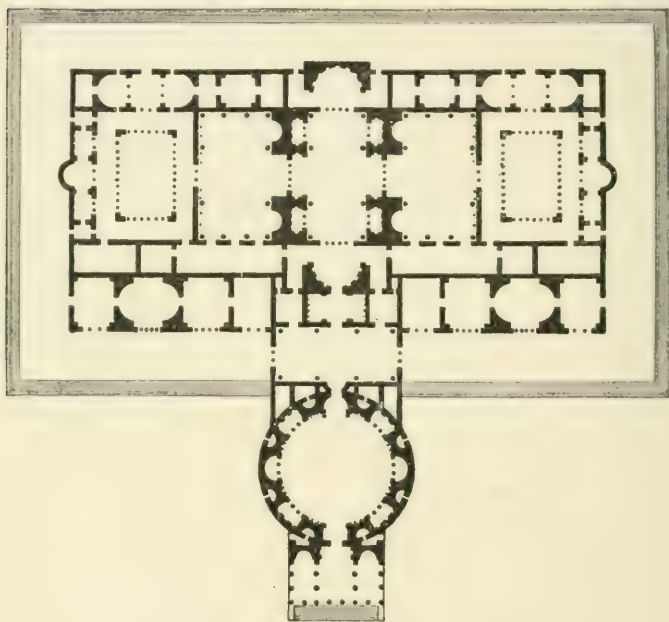


FIG. 73.—The Pantheon, restored by Palladio.

held the subordinate position of decoration. Yet the price of admission to all these delights was only a trifle over a quarter of a cent in our money, and so within the reach of every one.

Concerning the external architecture of the Roman baths, we know but little save that it was of brick

overlaid with stucco, and had walls supporting cross and barrel vaults of prodigious span. But with regard to the plan, interior, and content of the baths, our information is more precise, and it is not too much to say that "no group of state apartments in such dimensions, and wholly devoted to the purposes of display and recreation, were ever before or since grouped together under one roof."

The number of these baths was almost legion, and Agrippa alone is said to have added one hundred and seventy to those already in use. According to Palladio, the Pantheon formed the entrance hall to one, and in his drawing of that temple he has treated it as such (Fig. 73).

More stupendous, however, than the monuments of the Augustan Age were the *thermæ* of the later emperors. Those of Nero, Vespasian, Titus, and Constantine are too ruined to permit of intelligent restoration, but the remains of the baths of Diocletian and of Caracalla are less mutilated and sufficiently suggestive to admit of truthful translation on paper.

The similarity of plan between the two latter is sufficiently marked to make the description of both unnecessary for purposes of illustration, and so we will confine ourselves to the Thermæ of Diocletian (Fig. 74), the main hall of which is now the Church of *Sta. Maria degli Angeli*.

These baths were scattered over an area of thirty acres, and consisted of a square of buildings, some eleven hundred and fifty feet each way, inclosing a garden. From the sides of the square were two curved projections containing porticoes, lecture

rooms, gymnasia, etc., and before it ran a porch and peristyle belting nearly half of the structure.

Round about the inclosed court an arcade pursued its way, interrupted with temples, a theatre, and marble alcoves with sculpture, while in the centre of

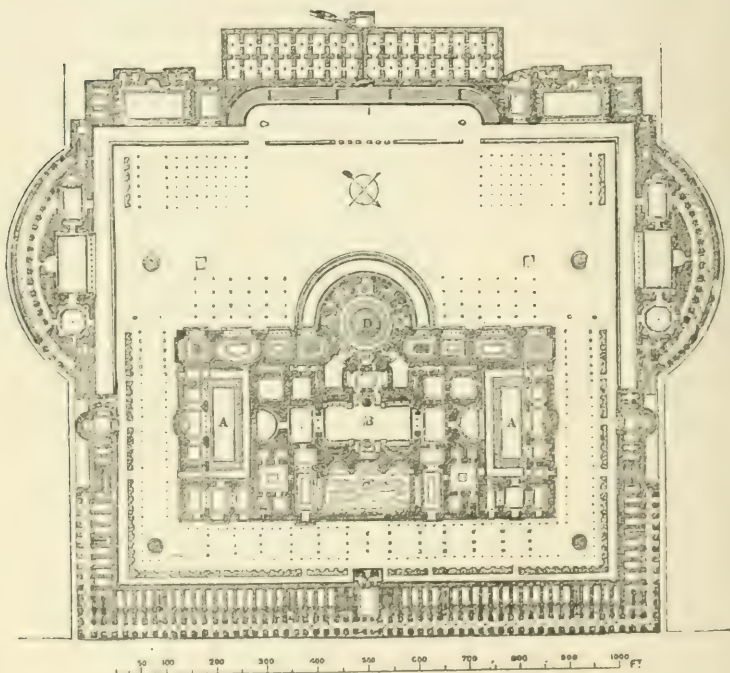


FIG. 74.—The Thermæ of Diocletian.

the garden rose the main architectural mass, more magnificent in size than the English Houses of Parliament. It was occupied by the principal plunges and baths, by cool courts adorned with fresco and mosaic, and by marble galleries with purple embroid-

ered couches for drowsy repose after exercise or the enervating sudatorium.

Besides the ordinary bathing rooms there was the *hypocaustum* or furnace room for heating the water. This water flowed first from reservoirs into the *frigidarium*, then into the *tepidarium*, where it was warmed merely, then into the *calidarium*, where it was superheated, and finally was drawn from each of the three into the numerous baths. To these were annexed the *apodyteria* or undressing rooms, the *unctuaria* or places for anointing the body, and the gymnasia, arena, and open-air palæstra for games and athletic contests.

Concerning the actual architectural handling in detail of this great collection (aside from the plan and general distribution) our knowledge is rather more that of conjecture than absolute fact. And so, though M Narrien is probably quite right in his statement, that these baths seem to want the good taste which characterized the works of Greece, Mr. Fergusson is none the less correct when he says, "There *is* nothing in the world which for size and grandeur can compare with these places of recreation.

Theatres, Circuses, and Amphitheatres.

The first company of players which ever performed at Rome was a band brought from Etruria in 364 B. C. But their performances were confined to pantomime and dancing, and it was not until 244 B. C. that the first regular drama was produced under the management of Livius Adronicus, and not until the year 54 B. C. that the first permanent theatre was built by Pompey. In general, the Roman theatres resembled those of Greece. They were designed in

two parts—namely, the *stage*, with its adjuncts, and the *auditorium*. The *stage* was a rectangle, the longer side of which was equal to the diameter of the semi-circle, forming the auditorium. The actors' dressing rooms opened directly on the stage, which was raised above the orchestra and adorned with various orders.

The auditorium, like that of the Greeks, consisted of an orchestra surrounded by concentric semicircles raised one above the other. It was reached by a flight of steps radiating from the centre to an outer upper gallery, which was treated as a colonnade and used as a *foyer* or promenade.

The whole was open to the sky save for a great embroidered sail or *velarium* stretched across the top during the heat of the day, and the back wall of the stage was usually carried up to a level with that forming the perimeter of the auditorium.

The orchestra (Greek, dancing place) was reserved for the senators, and the fourteen lowest rows for the knights; but the rest of the house was free to ordinary citizens.

That there was plenty of room, however, goes without saying, since the smallest theatre in Rome accommodated twenty thousand spectators. But the Romans never held theatrical entertainments in the same estimation as the Greeks, preferring the races and gladiatorial contests of the circus and amphitheatre. Among the most important theatres of Roman manufacture are those of Pompeii, Herculaneum, Orange (Fig. 75), and that of Marcellus at Rome, the ruins of which are still extant and admit of restoration.

The Roman circus resembled that of the Greeks in most respects, and served as the home for horse races, animal hunts, chariot races, and contests in pugilism, jumping, wrestling, and throwing the discus.

The course consisted of an oblong terminated at one end by a semicircle, and at the other by a segment of a circle. The whole was belted round by tiers of seats one above the other. A portico decorated with statuary crested the entire top, save the segmental end, which was made up of a number of buildings, and so gained the name of *oppidum* or town. Within the *oppidum* were the *carceres*, whence issued the horses and various contestants.

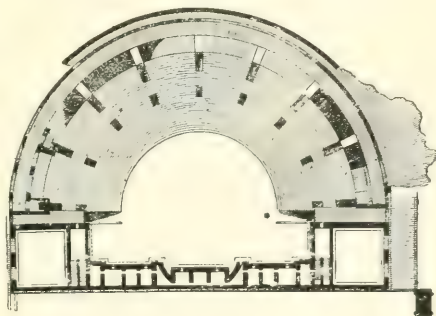


FIG. 75.—Plan of theatre at Orange.

All straight lines drawn normal to the curve of the segment met at a common point, so that all horses and chariots should have the same distance to travel in a race, and down the middle of the course ran a low wall, terminated at either end by a *meta* or goal, round which the racers had to pass.

The wall was called the *spina* or spine, on account of its position and a decoration of obelisks, statues, columns, chapels, and altars, whose irregular outline suggested the vertebræ of some great mammal.

Rome boasted many of these racing resorts, as did the other cities of Latium; but the most important was the Circus Maximus, begun rudely by Romulus, rebuilt by Tarquinius Priscus, and resuscitated and restored at various intervals under the republican and imperial ædiles.

Its dimensions were two thousand by five hundred feet, and its seating capacity in the days of Julius Cæsar was quoted at one hundred and fifty thousand, while at a later date we read of two hundred and fifty thousand people enjoying the games held there at one time.

The *Naumachias* exactly resembled the circuses, save that they were flooded with water and used for naval contests, as the name implies. In the time of Nero the amphitheatres were used for this purpose, and the building of *Naumachias* was gradually discontinued.

In the amphitheatre Roman architecture achieved one of its most original successes. These buildings held an intermediate relation between the theatre and the circus.

From the times of the kings gladiatorial contests had always their place in the public life of Rome, and the ruins of arenas at Capua, Verona, Alba, and Pozzuoli in Italy, at Arles, Nîmes, Nice, Saintes and Autun in France, and in various towns and provinces of Spain and Africa, prove the popularity of these heroic *abattoirs* throughout the empire.

Paoli attributes the first gladiatorial contest to the Etruscans, and asserts that they were held in a valley with the spectators seated about upon surrounding hills; later an arena was dug on a level piece of

ground and the thrown-up earth was used for seats. But it was not until the days of the emperors that permanent stone amphitheatres were built for gladiatorial games alone.

Under the republic, the contests were held in the Forum, with a temporary scaffolding of wood for seating the spectators.

The name amphitheatre was probably derived from an ingenious plan devised by Scribonius Curio

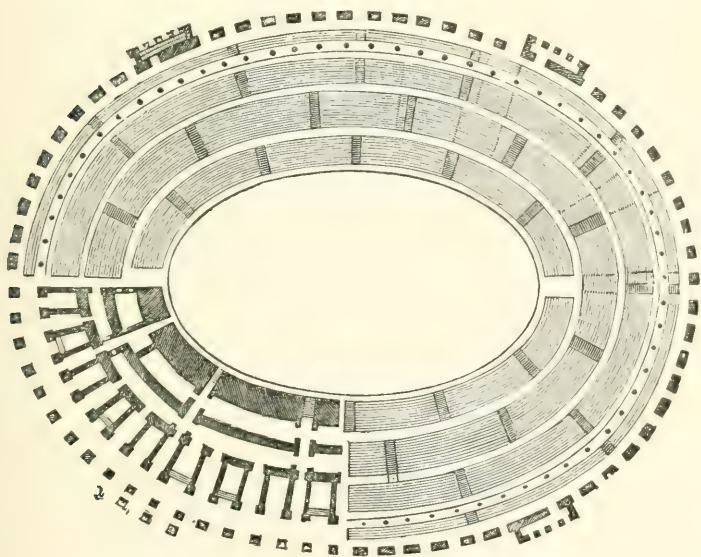


FIG. 76.—Plan of the Colosseum at Rome.

in 59 B. C. Two wooden theatres were erected side by side, and after the performances were finished, and while the audiences still remained seated, both buildings were swung round until the tiers of seats

united and formed an oval surrounding an arena, when gladiatorial games began.

Shortly after this invention Julius Cæsar, finding the double theatre more appropriate for animal hunts than the circus, built a permanent stationary one of wood.

The most celebrated amphitheatre ever erected at Rome, or in the world, was the Colosseum (Fig. 76) or Flavian Amphitheatre, begun by Vespasian, dedicated by Titus, and completed by Domitian.

According to Lepsius, it held eighty-seven thousand ; but this was only its ordinary seating capacity, and additional wooden tiers of seats could be added for the accommodation of half as many more.

The shape of the building both externally and internally was elliptical, having a transverse axis of six hundred and fifteen feet, a conjugate axis of five hundred and ten feet, and covering an area of about six acres.

A white marble wall crested by a species of gilded *chevaux de frise* rimmed the arena, the top portion of which revolved at the slightest touch, so that if any of the wild beasts, driven mad by terror or rage, leaped into the air and clutched at the bars, they immediately fell back harmlessly into the sand.

Round this encircling rampart stretched the *podium*, and behind it sloped terraces, usually crowded with human faces. The *podium* was reserved for the emperor, nobles, and vestal virgins, and was wrought in white marble picked out in colour by cushions of purple, vermillion, and cloth of gold. Gay tapestried awnings, Venetian masts, garlands of roses, also lent colour to the scene, while fair young girls and Bi-

thynian boys dressed as Ganymedes, Hermææ, nymphs, and hamadryads, according to their sex, served ices and cool Falernian wine during the interludes of indolence.

The oppressive heat of noon was likewise tempered by cooling sprays of perfumed water, which

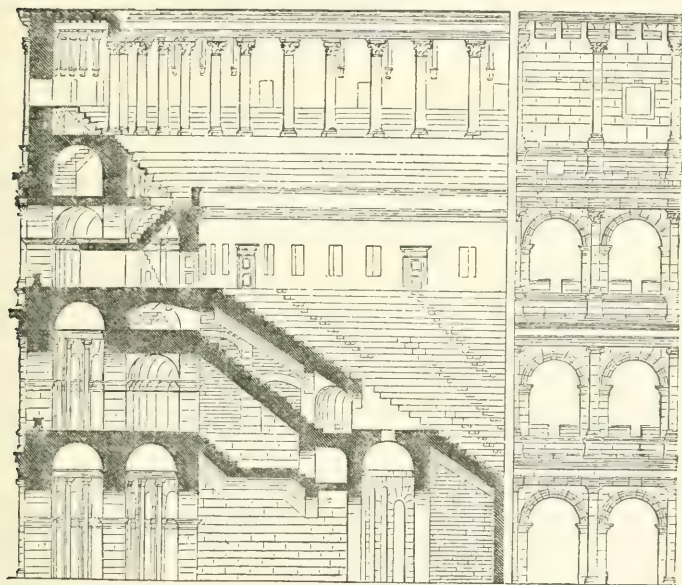


FIG. 77.—The Colosseum. Section and elevation.

exhaled a pleasing *fraîcheur* and purified the tainted air, while over all brooded the great *velarium* or sail, which in the case of Nero's amphitheatre was powdered with golden constellations and bore the chariot of Phœbus embroidered thereon.

All this, however, was but the frill and furbelow.

Beneath bent a series of vaulted passages (Fig. 77) of great constructive cleverness, with staircases leading to the auditorium and *vomitoria* or exits, while cages and prisons for beasts and men defied all ingenuity of escape by massive masonry of Cyclopean thickness.

Three tiers of arcades and superimposed orders with engaged columns defined the three lower stories in the usual sequence of Doric, Ionic, and Corinthian, while the fourth and top story carried pilasters.

Brick, travertine, and marble were the materials employed, but notwithstanding their strength and durability the building has been very much damaged,

not only by earthquakes, but the pilferings of the popes and nobles of the Middle Ages. Thanks, however, to Pope Benedict XIV, the portion which is now standing was rescued from further spoliation.



FIG. 78.—Tomb of Cecilia Metella.

Tombs and Basilicas.

Tombs hold a position in Roman architecture to a large extent on account of their dissimilarity.

Thus we have the *Tuscan tumulus*, like that of Horatius Cocles, the *Tower* of Cecilia Metella (Fig. 78), the *Pyramid* of Carus Cestius, and the Greek tombs, always graceful and simple in composition, yet ever in good taste; while family vaults, called

columbaria, from their resemblance to dovecotes, were also employed.

Tombs, as a rule, were erected on the borders of long avenues outside the city, as may be seen in Pom-

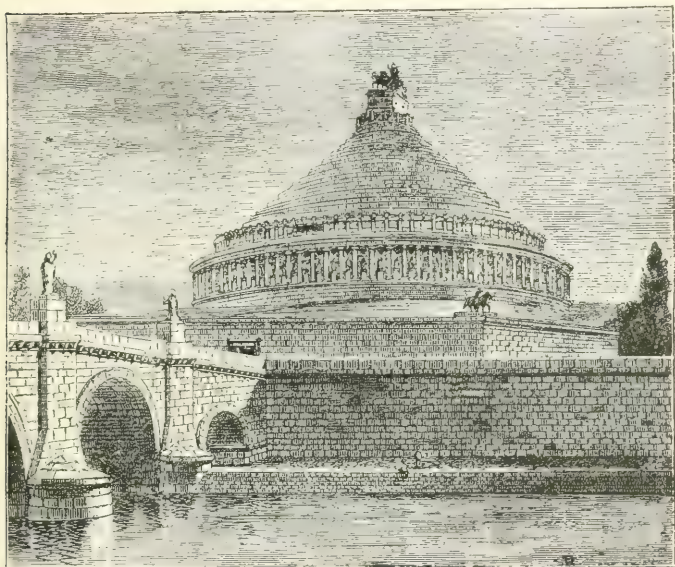


FIG. 79.—The Mausoleum of Hadrian.

peii and the Via Appia at Rome, but occasionally a great mausoleum occupied a more imposing site.

The Mausoleum of Hadrian (now the castle of St. Angelo) was one of these, and its ruins still dominate the right bank of the Tiber. Its architecture is best explained by the accompanying restoration (Fig. 79), which of many is held to be the most intelligent.

It only remains to mention the basilicas, which were the law courts of Rome, and in time came to be

looked upon as *bourses* or stock exchanges as well, since every such building was provided with courts and porticoes where important business transactions were carried on, and where *clientes* and freedmen awaited their lords.

The basilica itself consisted of a lofty oblong chamber, divided into a nave and side aisles by means of columns, and followed by a transept terminating in a semicircular apse. This contained the chair of the *quæstor* (magistrate or judge).

The ceilings were either flat or semicircular, and coffered, like the vaulting of the baths.

But the most important part played by the Roman basilica in architectural history is that it acted as the *amœba* from which all the Romanesque and Gothic cathedrals of mediæval times were eventually evolved, as well as the churches of the Renaissance, the age of awakened learning and enlightenment.

CHAPTER VIII: THE BYZANTINE STYLE.

As long as Rome remained mistress of the world so long did she remain mistress of its art ; hence, the laws which governed her architecture ruled that of all countries, from the Atlantic to the Euphrates, and from Great Britain and the Danube to the Tigris and deserts of northern Africa.

But with the division of the empire in 395 A. D., and the removal of the capital to the site of the old Greek town of Byzantium, the ties of taste, which had bound tributary provinces to the old capital, fell slowly away, and a new style rose triumphantly in the East, and spread itself over the continent of Europe. Westward it pursued its way to France and the shores of the Adriatic ; northward to the Kremlin of Moscow ; and, finally, after the inroads of the Arabs, it even entered the mosques of the Moslems, and, in Saracenic disguise, penetrated western and southern Asia as far as the plateau of the Himalayas and the golden river of the Ganges.

All styles of architecture are the result of evolution, and the Byzantine style is no exception to the rule. But since it did not forcibly assert its individuality until the time of Constantine, we will begin investigation with that period, and, passing over its inheri-

tances from the Greeks, the Romans, the Persians, or their Parthian predecessors, confine description to the *history* of the new style alone, leaving archæology to more pretentious works.

The subject naturally divides into two periods:

The first begins with Constantine and finishes with Justinian, and deals with the development of the *Pendentive System*, the underlying principle of all Byzantine architecture.

The second or Neo-Byzantine epoch extends from the death of Justinian to the end of the empire, and covers the subsequent development of the Byzantine style, both at home and abroad.

FIRST PERIOD.

The imperial edict which caused the early Christian style to emerge from the catacombs affected the East in no less vigorous a manner, and religious enthusiasm found quick architectural expression in numerous basilicas and conventual buildings. But a still more potent factor was the example and conduct of Constantine and his mother, St. Helena, who built churches in Antioch, Thessalonica, Bethlehem, and Jerusalem, and embellished Byzantium with a vast number of splendid buildings, which greatly encouraged Eastern handicraft and taste.

Under the stimulus of imperial patronage a huge concourse of architects, sculptors, painters, mosaic cutters, workers in gold, silver, ivory, and filigree, tessellators, gold embroiderers, marble masons, potters, fullers, furriers, and, indeed, artisans of almost every trade, thronged into the new city, and plied their several callings with such industry that in six

years the new Byzantium, well-named Constantinople or city of Constantine, was entirely remodelled. A forum, a circus, a hippodrome, public baths, palaces, and triumphal arches arose, sometimes masquerading in exquisite fragments plundered from Greek or Roman masterpieces, sometimes blazing with the green and gold and sapphire of Oriental mosaics.

Not satisfied with this, Constantine drained the public treasuries and exempted master artificers from taxation if they would come and live at Constantinople and teach their sons their handicrafts, while Gibbon says that "magistrates of the most distant provinces were . . . directed to institute schools, to appoint professors, and, by the hopes of rewards and privileges, to engage in the study and practice of architecture a sufficient number of ingenious youths who had received a liberal education."

But, alas for all this magnificent misdirected energy! Of all the churches and palaces built by Constantine and his immediate successors at Constantinople not a single example remains to-day except the little Church of Sergius and Bacchus (Fig. 80), resembling San Vitale in plan, and the mosque of Sta. Sophia, now sadly altered. For aside from the destruction

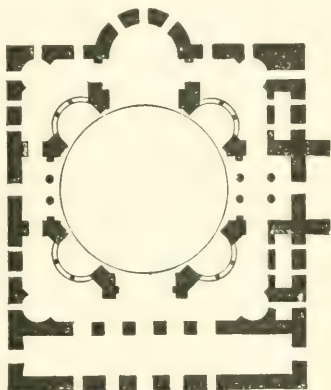


FIG. 80.—Church of Sergius and Bacchus at Constantinople.

due to Moslem inroads and the Tartar invasions under Tamerlane, we know from Zosimus that many of the buildings erected under Constantine were so hastily and carelessly constructed that they had to be taken down almost immediately after completion; while the earthquake in 413 A. D. swept away all the good work of Theodosius II, in whose reign baths, forti-

cations, and palaces had been erected on a scale, number, and magnificence to win for the emperor the title of "second founder of the Golden City of the East."

But, notwithstanding Moslems, Tartars, mismanagement, and the enmity of Nature, the Byzantines have left one of the finest constructive inventions recorded in architectural history—namely, the *Pendentive system*. Being great, it is also simple, and merely consists in

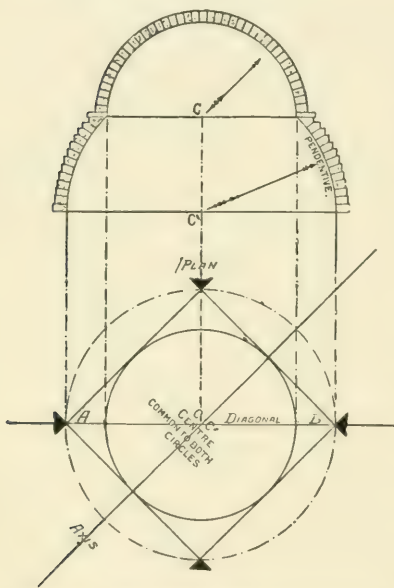


FIG. 81.—Pendentive system in Byzantine domes.

placing a circular dome upon a square, the diameter of the circle being equal to the side of the square (Fig. 81). The sides of this square are surmounted by arches, and the spherical triangles thus formed at the corners are filled with masonry and called *pendentives*.

The best example of this, and the most comprehensive of the Byzantine style, is in the Church of Sta. Sophia or Divine Wisdom (Plate XXVI), begun by Justinian in 532 A. D. on the site of a basilica of the same name erected by Constantine. This basilica had been burned down in 404 A. D., restored by Theodosius, and then destroyed a second time during the riots of Venetus and Prasinus, or by the partisans of the Green and Blue parties.

In Sta. Sophia Justinian announced his intention of creating "the grandest monument ever erected by the hand of man," and to this end he commanded the governors of even the most distant provinces to ransack all the ancient buildings for sculptures, precious marbles, and works of art. Eight columns of white marble were brought from the Temple of the Sun at Palmyra, eight of green marble from the Temple of Diana at Ephesus, and shiploads of costly relics of every description thronged the Bosphorus and Golden Horn. A gallery was constructed between the palace and the church in order that the emperor might pass to and fro at will and superintend the work; ten thousand workmen toiled night and day, being paid, stone by stone, as each was set in place, and additional payments were given to those who exhibited exceptional skill. This continued for six years at prodigious expense. The royal treasury, the private purse of Justinian, and the voluntary offerings of the people were exhausted to the last farthing; conquered nations were despoiled, provinces were laid under tribute, taxes were increased, "and even leaden pipes from the city fountains were put into requisition to supply either money or material."

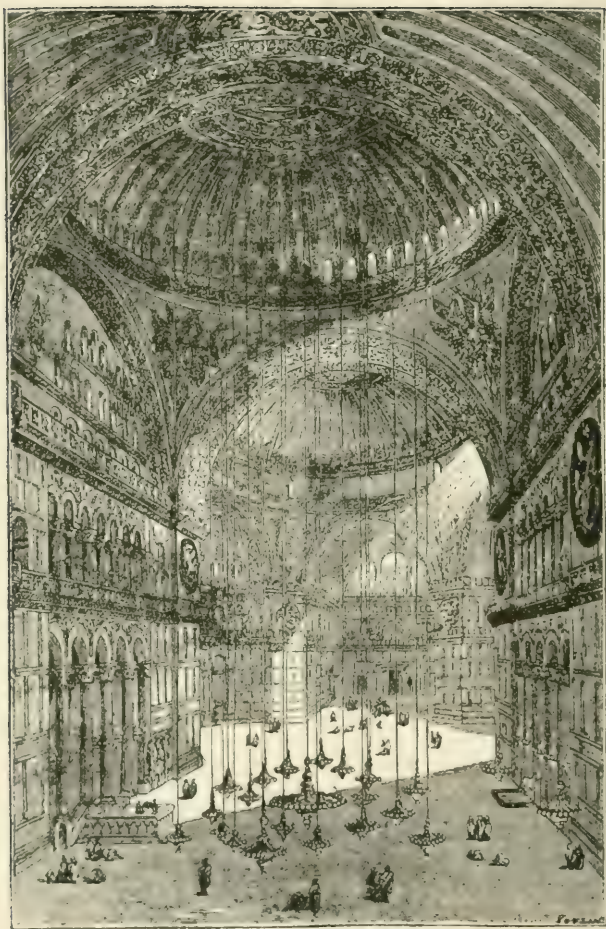


PLATE XXVI.—Church of Sta. Sophia.

Anthemius of Tralles was the architect, assisted by Isidorus of Miletus, and though Anthemius can not be said to have invented the pendentive system, he was the first to develop and use pendentives on so large a scale.

The distribution of Sta. Sophia (Fig. 82) is very simple in plan though complicated in appearance.

It consists of a square 229×243 feet, in the centre of which four great piers, carrying semicircular arches, form another square. Pendentives or triangular vaultings fill the corner spaces

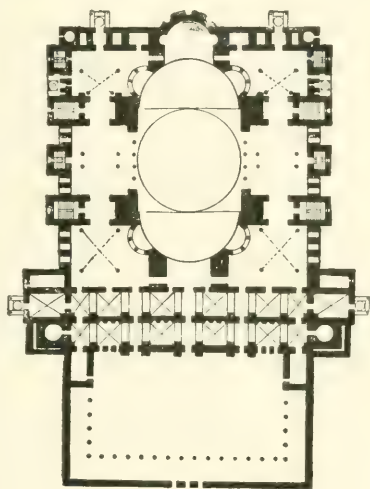


FIG. 82.—Plan of Sta. Sophia, Constantinople.

between the arches and carry a huge, flat, central dome, thereby bringing the climax of the design in the middle instead of at the east end (Plate XXVI).

Concerning this dome Procopius wrote: "From its lightness . . . it does not appear to rest upon a solid foundation, but to cover the place beneath as though it were suspended from heaven by the fabled golden chain."*

Right and left of the central square rise four pil-

* Procopius on the buildings of Justinian. Translated by Prof. Aitchison.

lars surmounted by arches carrying the women's gallery, and on the other two sides are semicircles vaulted with half domes.

Each half dome is penetrated by three supplementary vaults, the middle one in each case being a tunnel vault. The tunnel vault toward the west terminates at the entrance, that toward the east ends in the apse.

The *narthex* was divided into two parts, called *exonarthex* and *esonarthex*, or outer and inner vestibule, the doors of which were of cedar enriched with amber, ivory, and silver.

Externally Sta. Sophia has little to attract, but in the interior this is not the case, and in the time of Justinian the decorative scheme must have beggared description.

The walls were incased with precious marbles or with scales of green and gold mosaics, and the vaulted roofs of the side aisles were painted in encaustic. Forty columns with capitals of solid gold separated the various divisions of the cathedral.

Above the green marble of the nave rose the giant bubble of the dome, pierced by forty-four windows and constructed of bricks imported from the island of Rhodes on account of their extreme lightness. These were likewise mosaiced in gold and opalescent colour, while pictures on flat gold grounds appeared wherever appropriate.

Throughout the building, candelabra, amphoras, and crosses of chased metal blazed in the yellow light; bands of bas-reliefs carved like cameos caught the eye and carried it toward the gold and silver thrones of the bishop and clergy; and there, above all, in the *apsis* rose the climax, and pride of Justin-

ian—namely, the altar. For the emperor, wishing the holy table to be more valuable intrinsically than gold, took gold, pearls, diamonds, and silver, and melted and mixed them together so as to form a mass. This was fashioned into a box-shaped altar, set upon golden pillars, and lined with precious gems.

In all this gorgeousness—in whose description the word *gold* can not but enter tautologically—one sees little or nothing of the purity and simplicity which characterized Hellenic art; indeed, none of its repose and contemplation of the ideal, and, in many cases, the taste of Oupravda, the slave, has superseded that of Justinian, the emperor.

But splendour and magnificence were the objects aimed at; and, whatever excesses were committed in exuberant decoration, “a *purely logical arched and domed construction* was evolved, thereby forming a new and distinct architectural style, and one well worthy of imitation in large or public works.”

Before leaving the first period, it would be well to recapitulate and point out constructive features and details which afterward became typical of the Byzantine style wherever it flourished.

Among these may be mentioned the use of vaulting on the pendentive system; the employment of the Greek-cross plan instead of the Latin-cross plan, so popular at Rome; and the covering with domes and semi-domes of all places which in earlier times were spanned with ordinary roofs. Again, the use of arches *within* arches was first adopted by the Byzantines—as in the side recesses of Sta. Sophia (Plate XXVI)—and great liberties were taken with their shapes. Thus at times the arches would be less than

half a circle; then, again, they would be "*stilted*," i. e., elongated beyond the semicircle, as in cases where spaces of different widths had to be covered while the columns remained the same in height.

The capitals resembled inverted truncated pyramids ornamented with basket work or foliage in low

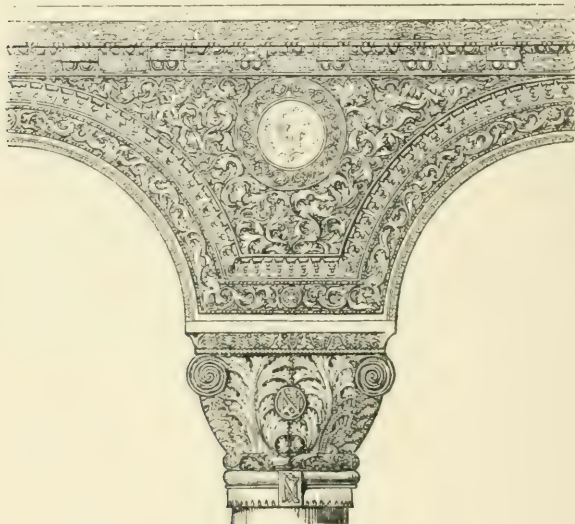


FIG. 83.—Capital in Sta. Sophia.

relief (Fig. 83); and though they lacked the elegance and refinement of Grecian work, they were singularly appropriate to the arched and domical construction in which they were used; for by their very stability these sturdy supports created an impression of lightness in the superstructures.

It only remains to mention the ornaments. Thus *opus Græcum*, or mosaic composed of porphyry and

serpentine set in white marble, covered the floors; large slabs of precious marbles with borders of mosaics lined the walls; and the frontals and spandrels of arches, the interiors of cupolas and apses, and the upper portions of side walls were coated with glittering mosaics of enamel or coloured glass. Even the subordinate members of columns were often picked out with ribbons of purple and gold, and thus gaily asserted their individuality. But of more importance were the paintings of religious subjects in the form of panels filled with conventional figures of great seriousness and dignity of treatment on gold grounds. Similar austere conventional figures appeared again nine centuries later, chastened and softened by the divine symbolism of Fra Angelico, Filippo Lippi, and Bernardo Gozzoli.

THE SECOND PERIOD, OR NEO-BYZANTINE EPOCH.

Nearly all the salient characteristics of Neo-Byzantine architecture had their origin under the first period, but they did not come into general usage until after the death of Justinian.

The two most popular forms of construction were, first, a Greek-cross plan with a *vault system* of *five* domes (one dome being placed at the intersection of the nave and transept, the others at the extremity of each arm); and, secondly, a square having a large cupola over the centre, and a dome at each corner to withstand the thrusts of the pendentives.

Other characteristics of the second period were a preference in many places for the Latin-cross instead of the Greek-cross arrangement within a square; the use of barrel vaults; and the multiplication of minor

domes; while the most important change of all was the treatment and external aspect of the great brick bubble or dome spanning the central space.

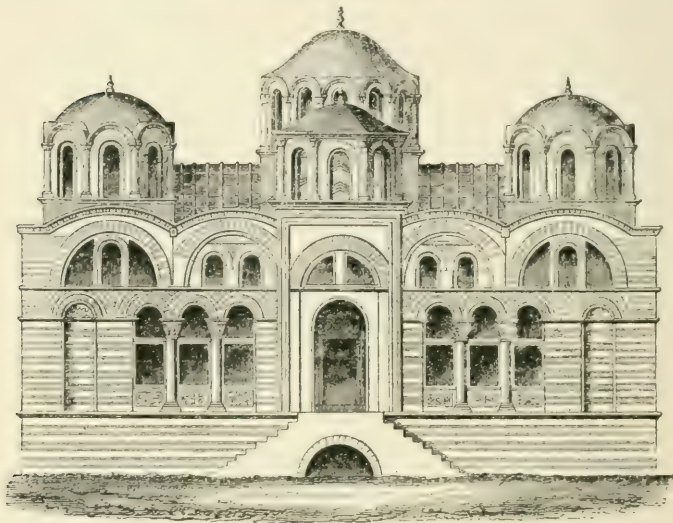


FIG. 84.—Elevation of Church of Theotocos. From Lenoir's *Architecture Monastique*.

Hitherto the vaulting of this feature had been somewhat flat, and had frankly asserted its shape on the outside with no screen whatsoever, save a covering of copper or other metal; now, on the contrary, the dome was made hemispherical, placed on a drum pierced with windows, and covered in such a way as to give an appearance, on the outside, of being a flat vault on a perpendicular structure. This may be seen in the Church of Theotocos (Mother of God), erected at Byzantium in the tenth century (Fig. 84); the Church of St. Irene, built shortly after the

death of Justinian in the same city; and, above all, in the Church of St. Nicodemus, at Athens (Fig. 85)—edifices which afterward set the fashion for many churches of the Greek ritual both in the Middle Ages and in modern times.

Occasionally the arms of the cross, forming the plan of a church, were simply spanned by barrel

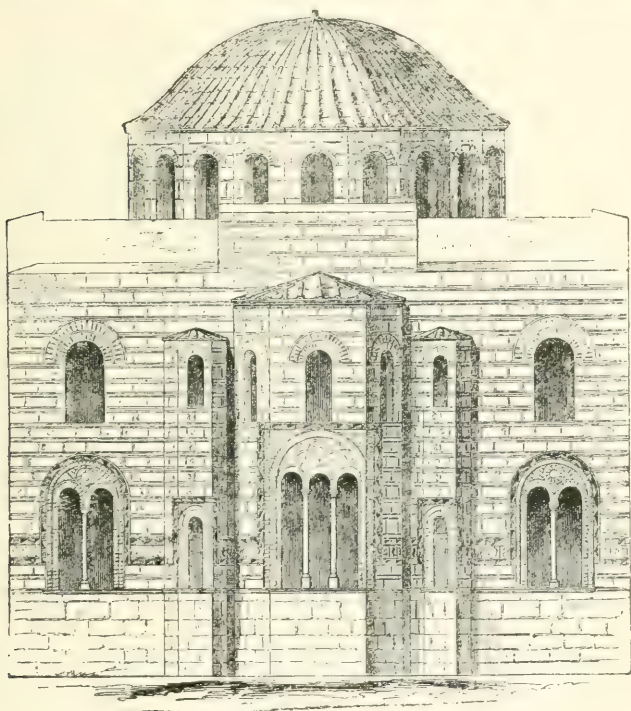


FIG. 85.—Church of St. Nicodemus at Athens.

vaults, whose ends were afterward treated as semi-circular pediments, as in the Church of Monetes-

Koras (Home of the Virgin) in Armenia, whose façade probably suggested that of the sumptuous Cathedral of St. Mark at Venice.



FIG. 86.—Church of St. Theodore at Athens.

The interior decorations of the second period were much the same as those of the first, and included

costly marbles, frescoes, and mosaics of small precious stones or cubes of crystal.

The manner of making gold mosaic was peculiarly economical and successful, for each disk was merely covered with a bit of gold leaf, over which was laid a film of glass, thus preserving the gold from dirt and injury. All the gold mosaics of St. Mark's at Venice are of this kind, as well as those of Sta. Sophia, and these have stood the test of time for thirteen centuries.

Greece boasts a large number of Neo-Byzantine buildings, there being something over a hundred on Mount Athos alone, while Misitra (the ancient Sparta) and Athens still retain typical examples of the style.

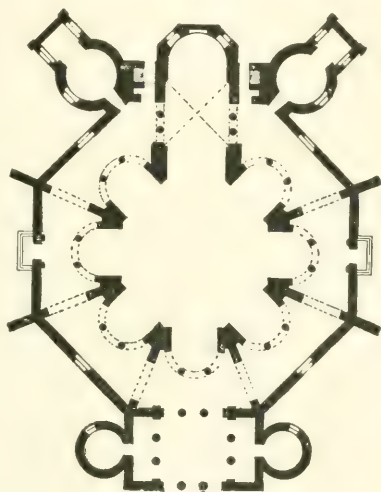


FIG. 87.—Plan of St. Vitale at Ravenna.

One of the most beautiful specimens is the Church of St. Theodore (Fig. 86), which was erected in honour of a general of the Achæans who saved Greece from pillage during the invasion of the Goths in 380 A. D.

The Emperor Theodosius is said to have founded the building, but the architectural treatment as it stands to-day is of much later date and belongs distinctly to the second period of the Byzantine style.

It is composed of yellow tufa and brick, and though the whole edifice is not much larger than a fair-sized chapel, the general effect, as shown in Fig. 86, is imposing. The treatment of the cupola is particularly happy, the drum being carried up to the height of the windows without marring the graceful outline of the dome.

Ravenna was the capital of the viceroyalty or exarchate of the Eastern Empire in Italy, and so was naturally much influenced by Eastern art, an art which found satisfactory outcome in the Church of San Vitale, referred to in the last chapter (Fig. 87).

Many archæologists are unwilling to class San Vitale as a Byzantine building because the pendentive system is not employed in it. But, on the other hand, it contains stilted arches, square capitals, arches within arches, and is coated in the interior with elaborate mosaics and revetments of precious marbles (Plate XXVII).

The most gorgeous example of Byzantine art built in the West was the Cathedral of St. Mark in Venice (Fig. 89), begun in the year 979 A. D. under the doge Pietro Orscolo. Though erected at a time when the Eastern Empire had greatly declined, the friendly intercourse and maritime relations between Venice and the Orient were such that the architects had every opportunity to study Sta. Sophia during the period of its integrity and magnificence and before Vandal conquerors had rifled its treasures.

This building has the usual form of a Greek cross (Fig. 88). The central square is spanned with a large cupola, and each of the four lateral naves is crowned

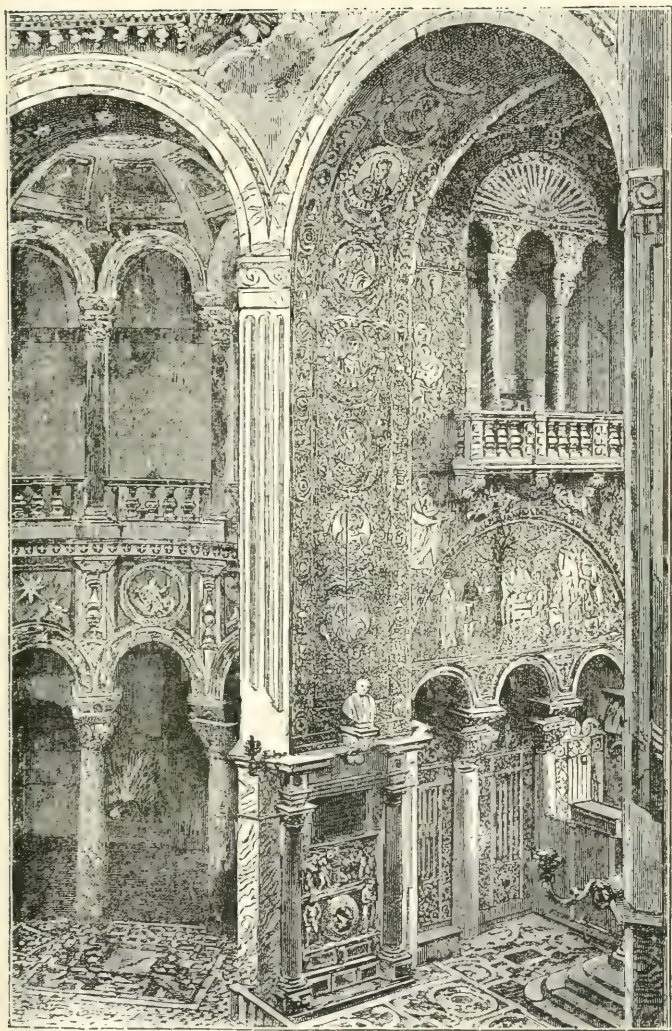


PLATE XXVII.—Interior of San Vitale at Ravenna.

with a cupola of smaller size, necklaced with a row of small, round-headed windows.

A vaulted *atrium* or *narthex* crested by a balustrade precedes the building and is entered by five

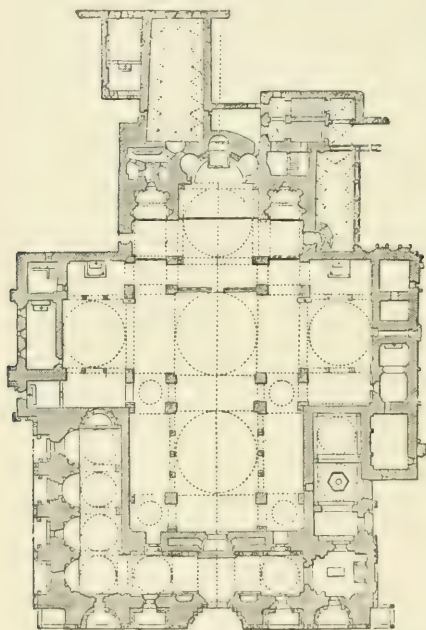


FIG. 88.—Plan of Cathedral of St. Mark,
Venice.

doorways ornamented with columns of cipolin, jasper, and marble, and flanked by two lateral arcades (Fig. 89). Five arches break up the portion of the façade appearing above the *narthex*, "causing a curious interchange of light and shade," their outline strongly defined by a cresting of elaborate sculpture. All the arches above and below are enriched with mosaics of exquisite

workmanship. The interior is incrustated with ornaments like those of Sta. Sophia, and in this respect is equal to any example of the Byzantine style in the East; but the builders of the pendentives did not apparently understand that these supports should be treated as parts of a sphere, and their joints converge

to a centre. Hence, the spaces between the arches are filled with a collection of small superimposed arches, which lack the dignity of the bold curving sweeps in *Sta. Sophia*.

In the second half of the eleventh century a colony of Venetian artists and handicraftsmen emigrated to France and settled in Limoges, and it is to them

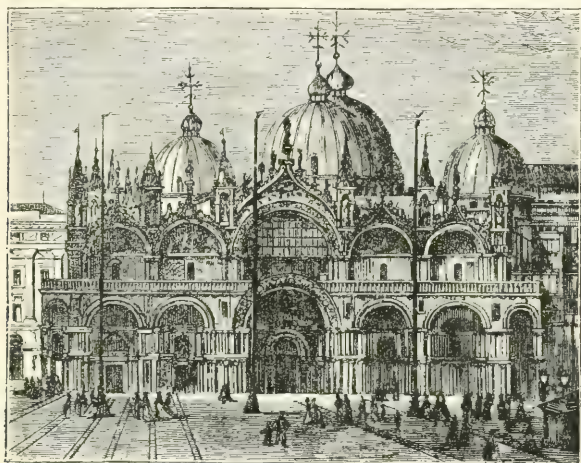


FIG. 89.—Cathedral of St. Mark, Venice.

that the French owe the examples of Byzantine architecture which appear in the very centre of their country, such as the Church of *St.-Front*, at *Périgueux*, and *St.-Pierre*, at *Angoulême*, which stand as connecting links between Byzantine and Romanesque architecture in France.

The most important feature in *St.-Front* is the use of the pointed or ogival arch, a form never previously employed in France. In other respects the

church much resembles that of St. Mark both in plan and dimensions.

At Fontevrault, Souliac, and other places of Aquitaine are examples of Byzantine architecture, but, as Tuckerman says, "all of them show the want of a clear comprehension of the principles involved, and are evidently foreign to the taste of the people," while "the introduction of this style in France offers a parallel to the introduction of Gothic architecture in Italy a century or two later, for in neither case were the styles in accordance with native inspiration."

Numerous specimens of Byzantine architecture are scattered over Armenia and Asia Minor; and Salonica boasts some thirty-seven buildings of this style; but none added to nor developed anything from it. Hence it only remains to speak concerning the Byzantine style of Russia, where, modified by certain native forms, it remained in use longer than in any other country.

At the time when the Eastern Empire was at the height of its prosperity, the Sarmatians, who dwelt to the northeast of the Black Sea, came under the dominion of the Tsar, whose capital was at Kieff. These Sarmatians or Muscovites were Christians of the Greek Church, and when in the middle of the tenth century one of their princesses, named Olga, returned from a visit to Constantinople, where she had been baptized, she celebrated the event by erecting a church at Kieff on true Byzantine principles.

In 988 A. D. the Grand-Duc Vladimir followed her example and built another at Novgorod in the Neo-Byzantine style with five golden cupolas like the



PLATE XXVIII.—The Church of St. Basil at Moscow.

cathedral of St. Mark, and dedicated to Divine Wisdom. From that time Byzantine buildings increased enormously throughout the country, and continued to do so until the fifteenth century, though large numbers were destroyed in the thirteenth century during the irruptions of the Tartars.

In the year 1453 Constantinople and the Eastern Empire fell, Mohammed II entered Sta. Sophia on horseback, and Byzantine architecture was at an end. The Gothic style controlled the West, the Saracenic the East, and even Russia, who hitherto had employed only Greek artists, was overrun with Italian and other architects, who, though they retained the main features of the Byzantine school, introduced new forms detrimental both to the beauty and to the purity of the style.

The cupolas took on the bulbous form of Moorish mosques and the belfries would have been more appropriate as minarets in Cairo or Ispahan. Architecture became the work of the jeweller rather than the architect; and exteriors were tortured with carving, leaving no relief or rest for the eye.

One of the best examples of this period is the Church of St. Basil, on the Kremlin at Moscow (Plate XXVIII), built at the order of Ivan the Terrible. This church so pleased the emperor on completion that he commanded the architect's eyes to be put out, lest he should ever design anything finer for another potentate.

CHAPTER IX : EARLY CHRISTIAN ARCHITECTURE.

EARLY Christian architecture began with the conversion of Constantine in the early part of the fourth century and ended in the year 1000.

Before this conversion of the emperor, Christian places of worship and burial were confined to the catacombs or subterranean stone quarries of the Romans, and were simply caves hewn out and decorated with the rude symbolic art grown popular at the time.

The tombs of the saints and martyrs were held in especial favour by the faithful, and it was deemed a privilege to be buried near the last resting places of these holy men. Hence those who could afford the luxury, excavated family vaults and chapels near these sacred spots, and later, when politics permitted the building of Christian churches in the open air, they were usually erected over the tombs of the saints to whom they were dedicated.

Thus arose the custom of having crypts to contain the bones and relics of a tutelary saint, and these crypts became a constant feature in all early Christian churches.

As a style, early Christian architecture was confined almost entirely to churches, baptisteries, and se-

pulchral monuments, and, like all styles, was a development rather than a spontaneous creation.

The churches were developed from the Roman basilica, the baptisteries from round or polygonal Roman tombs, while a circular church, built by the

Empress Helena over the holy sepulchre at Jerusalem, set the fashion for all sepulchral monuments.

The first step in early Christian architecture was made when Constantine gave over to Pope Sylvester his palace of the Lateran, which doubtless contained an old Roman basilica and added a baptistery; but the first actual church was the basilica built over the tomb of St. Peter (Fig. 90), on the site of the present church of that name. This basilica differed from most

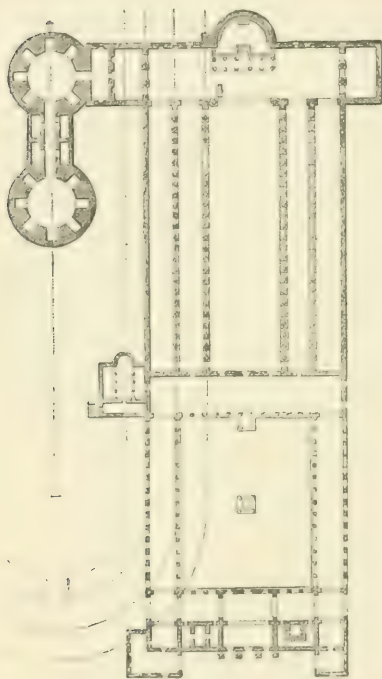


FIG. 90.—Basilica of St. Peter.

Roman law courts in having double aisles flanking the nave, and in the lengthening of the transept or transverse aisle so as to form a Latin cross, a name given to distinguish it from the Greek cross, used in the churches of Constantinople; while a *narthex* or spe-

cies of vestibule and a large *atrium* preceded the whole.

As churches increased in wealth and prosperity, the line of demarcation between the laity and the several orders of ecclesiastics became more marked. The platform seats for the judges (ranged in a semi-circle around the apse when basilicas were courts of justice), now became the stalls of the church dignitaries or higher clergy, with the *cathedra* or principal seat in the middle for the bishop's throne. Before them rose the altar surmounted by a *baldachin*, which stood over the tomb of the saint to whom the church was dedicated.

The seats of the choir, and deacons or ministers who simply read the Scriptures, extended in rows on either side of the altar, and occupied also a portion of the nave. All this portion was in later times raised, and railed off, and a species of triumphal arch also divided it from the rest of the church.

The women occupied the galleries, the men the side aisles, while catechumens or neophytes, who had not yet received the rite of baptism, were seated in the nave. The *narthex* accommodated the penitents, who were required to flagellate themselves from time to time, the name *narthex* being derived from the ferule used for the purpose.

Outside of the church in a colonnaded *atrium* prayed those who were not even deemed worthy to enter the *narthex*, so that the whole seating arrangement was a gradual diminuendo of rank and importance, from the bishop on his throne to the pariah in the outer court.

Such was the general plan arrangement of a typical

early Christian church, save that in later times two of the side aisles were eliminated.

In regard to the exterior and interior designs, early Christian ideas were directly opposed to Roman theories. For while the Romans devoted their attention to the external effect of their basilicas and left the inside comparatively plain, the early Christians did exactly the reverse.

The cross-section of St. Peter's (Fig. 91) shows the general shape adopted by the Christians, and from

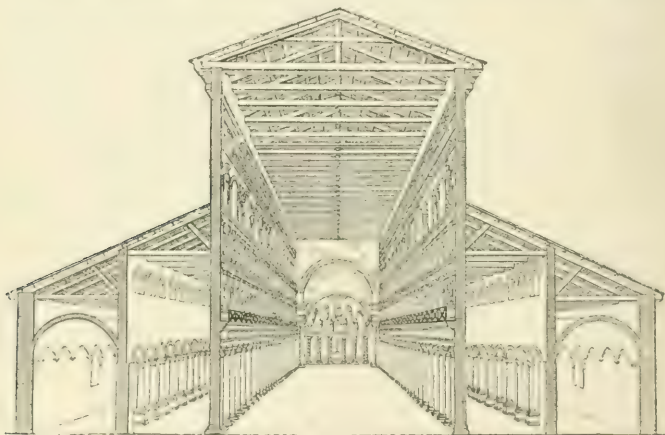


FIG. 91.—Section of the Basilica of St. Peter.

it all subsequent churches, whether Romanesque, Gothic, or Renaissance, took their model. During the first few hundred years, the typical basilicas were of plain brick, pierced by round-headed windows at the sides; a portico reached about half way up the front, and a bull's eye above the portico, afterward developed into the ornate rose windows familiar to

us all on the façades of Gothic cathedrals. The portals were square, and decorated with sculptured architraves and mouldings taken from ruined temples or other Roman buildings, and the wooden doors were richly embossed with plates of chased bronze.

Inside, long lines of columns, of either the Corinthian or Ionic orders, and usually carrying arches, formed the principal architectural feature. The walls of the transept and apse were incrustated with mosaics of green and gold, purple and deep blue, while sacred emblems, figures of saints, and representations of the head of our Lord, all executed in glass or precious marbles, were skilfully inlaid at well-chosen intervals.

The roofs were either open trusses or flat, with sunken panels framed in gilded mouldings, and the floors were tessellated in marble, having nearly always a huge circle of crimson porphyry, called the *rota*, near the entrance, on which certain of the worshippers knelt for prayer.

Sometimes the walls above the arches of a nave were carried up unbroken to the roof, but more often there were galleries for the women over the side aisles which had their outlook into the body of

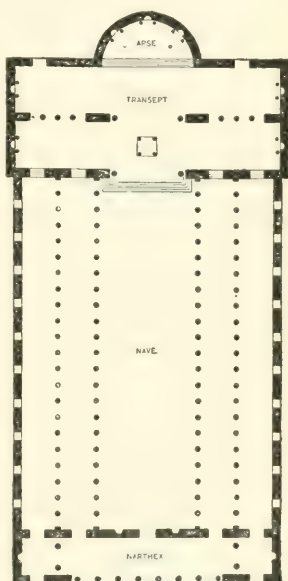


FIG. 92.—Plan of the Basilica of St. Paul beyond the walls.

the church through windows. These windows, perhaps because they were grouped in threes by the later Gothic architects, gained the sobriquet of *triforium*. Other openings above these (Fig. 91) formed the *clerestory* for additional light.

One of the most beautiful basilicas of the early Christian style was the Old Basilica of St. Paul beyond the Walls (Fig. 92), founded in 388 A.D. by Theodosius and Valentinian II, completed by Honorius, and restored, elaborated, and enriched by various Popes, especially Leo III. It is also interesting in being the last five-aisled basilica built in Italy, save that of St. John Lateran, which belongs to the tenth century and the time of Sergius III and so may be counted as practically a member of the next architectural period.

A marble colonnade formed the approach from the Tiber to this basilica, and in mediæval times a covered arcade joined it to the city. The interior was held the *chef d'œuvre* of its time, and counted rare frescoes, mosaics, and bronze doors among its treasures. But the principal feature was the Corinthian colonnade, wrought in polished *paconazzetto* and Parian marbles which were plundered from earlier masterpieces of pagan art.

In 1823 the Basilica of St. Paul was ravaged by fire (Fig. 93), but it has since been intelligently restored in the sumptuous fashion in which it appears to-day, with its malachite altar, carved and gilded ceilings, and mosaics. But though rich in treatment, it must be confessed that the beauty of simplicity is somewhat lacking. A more successful example still remaining is that of Sta. Maria Maggiore, 432 A.D., where good

proportion and unity of treatment are the most salient features.

During the troublous times which followed the reign of Theodosius due to the constant invasions of Goths, Vandals, Alani, Burgundians, Suevi, etc., architecture had little opportunity for development. But



FIG. 93.—Basilica of St. Paul after the fire of 1823.

we still have the Church of San Nazario, at Ravenna, built by the daughter of Theodosius, and, curiously enough, a number of architectural contributions in various parts of Italy from Theodoric the Goth. The most important of these is a palace at Ravenna, some of whose details found favour under the Renais-

sance, and a mausoleum called La Rotonda in the same city has won renown for its domical roof, cut from a single piece of stone thirty-six feet in di-

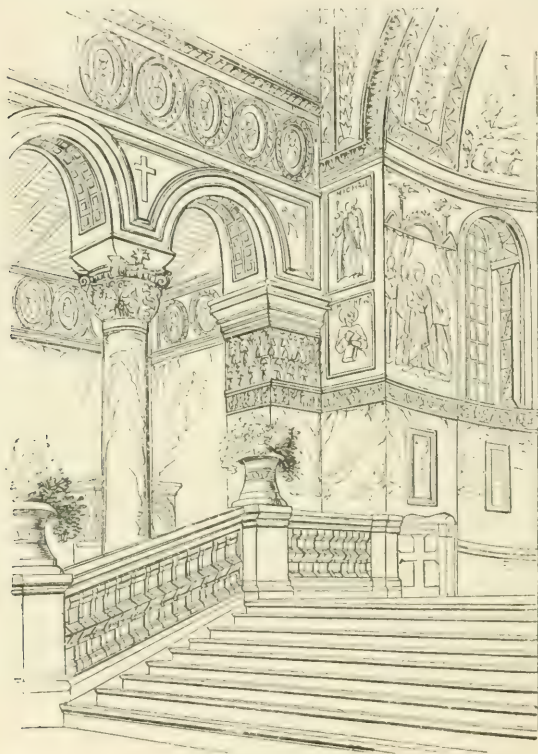


FIG. 94.—Basilica of San Apollinare in Classe, Ravenna.

ameter. During the early part of the sixth century Justinian gained the imperial purple and built at Ravenna the Church of San Vitale and the beautiful Basilica of San Apollinare in Classe (Fig. 94), which,

in addition to its great magnificence, holds the distinction of being the first to introduce windows into the apse, a fashion followed throughout all subsequent Gothic art.

Before examining the Christian architecture of the seventh century, which is mainly Lombard, it would be well to glance at the baptisteries and tombs, which are principally Roman.

The tombs, as a rule, were round, while the baptisteries were either octagonal or round. Yet the words tomb and baptistery are often interchange-

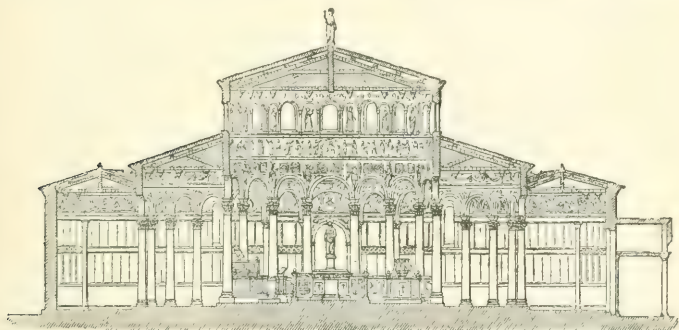


FIG. 95.—Sti. Angeli, Perugia.

able, for a baptistery frequently covered a sepulchre and a tomb often contained a font.

Hence the term circular churches has generally been applied to this class of architecture.

These buildings were severely simple in their external treatment, and in this regard had much in common with the Roman tombs on the Appian Way, especially that of Cecilia Metella (Fig. 78). But within the design was much more elaborate, and fresco

and mosaic warmed and jewelled the ceilings, floors, and walls.

A row of columns usually carried a circular vault, beneath which stood the font, and the same columns supported a wall pierced by clearstory windows, thereby forming a lantern for lighting the upper portion of the interior.

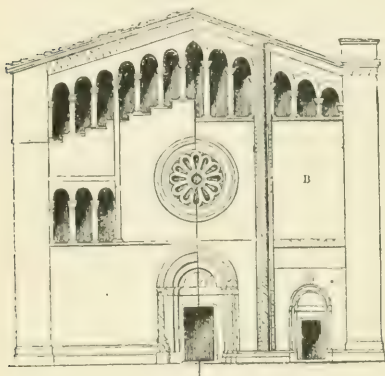


FIG. 96.—Specimen of Lombard architecture.

The earliest examples are the tomb built by Constantine for his mother, Helena, in 328, the tomb of Honorius and his wives, and the Church of St. Andrew. Of these, the two latter were adjuncts to St. Peter's

basilica, and stood on the axis or *spina* of the old circus of Nero, where the good St. Andrew suffered martyrdom (Fig. 90). The next in chronological sequence was the tomb of Sta. Costanza, daughter of Constantine, called at present the Baptistery of Sta. Agnese, after which were built the more elaborate types of San Stephano Rotondo, Sti. Angeli in Perugia (Fig. 95), and gorgeous San Vitale at Ravenna (Plate XXVII), modelled on the idea of the temple of Minerva Medica at Rome, and held to be the most beautiful of all.

Charlemagne is said to have copied this building in his tomb at Aix-la-Chapelle, and the architects of

many other baptisteries of the time felt it no disgrace to imitate this gem of early Christian art.

During the seventh century the Lombards, having made their way through Germany from the shores of the Baltic, overran the whole of Italy, so that the emperors were forced to confine their encouragement of art to Constantinople, where the Byzantine style was developing, and though Christian architecture still continued to increase at Rome under the Popes, no radical steps in advance were taken. But at Pavia, the town chosen by the conquerors for their capital, and in other subjugated cities, architecture received a new impulse and so many innovations that it is sometimes classified separately, and called the Lombard style.

The Lombards were great church builders and their architecture is mainly confined to that branch.

These churches combined the plan of the Roman basilica with the cupola of the Byzantines, and crypts

were invariably added, and donated with saintly bones plundered or bought from the catacombs of the Eternal City. The most salient architectural features have been briefly summed up by Mr. Gally Knight, and, still more briefly, are as follows :

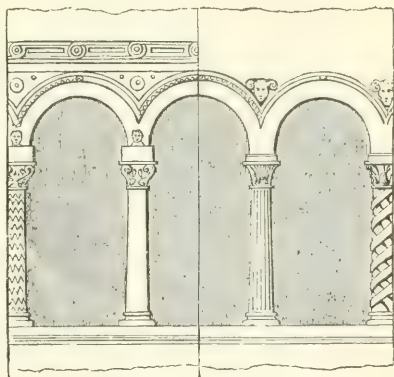


FIG. 97.—Specimen of Lombard architecture.

Externally appeared, a greater increase of ornamentation; the carrying up of compound piers or buttresses from the ground to the eaves; small open or

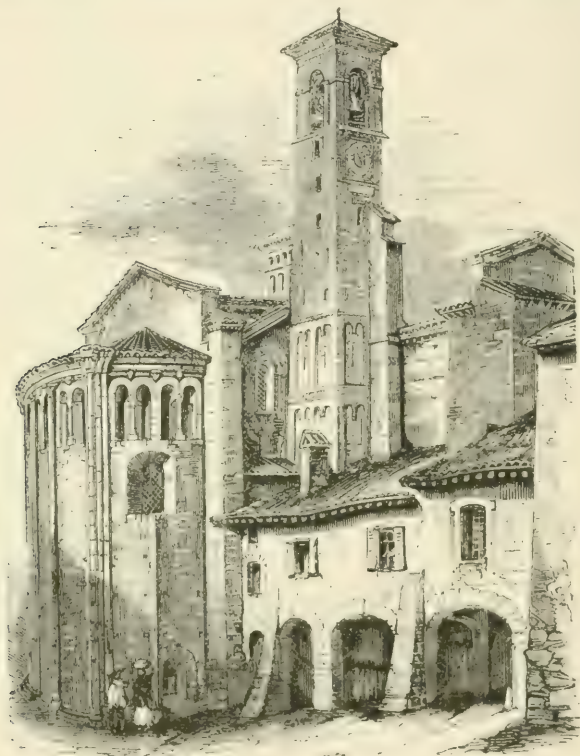


FIG. 98.—Church of San Michele, Pavia.

closed arcades following the outline of the gable (Fig. 96) or crowning the semicircular apse; and a multiplication of mouldings and sinkings enriched with carven imagery.

The inside usually showed total neglect of classical proportion in the columns, the substitution of compound piers for single pillars, the omission of pedestals and architraves, and great dissimilarity in the capitals (Fig. 97), which for the first time bore a profusion of images and grotesques.

This sculptural imagery was the most original and striking feature of the style, and found its way

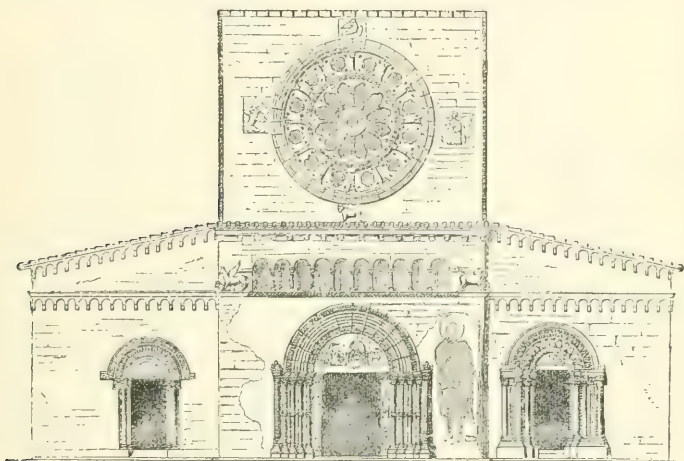


FIG. 99.—Elevation of Sta. Maria Toscanella.

especially in bands along the front, in modillions let into the wall, and in the decorations which filled and covered the heads and lintels of the doorways. It was made up of a heterogeneous collection of pagan, Christian, and Scandinavian symbols. In the *same* church one might see wrought in elaborate sculpture, the four beasts of the Apocalypse, Theseus, the Minotaur, the Paschal Lamb, Lazarus, sirens, the

Zodiac, the peacock, the fish, the goat, the vine, Daniel, Jonas, David and Goliath, and hundreds of Scandinavian dragons, eagles, dogs, and sea serpents; all of which evidently affected later Gothic art, as shown in the gargoyles, monsters, and grotesques in the cathedrals of the thirteenth, fourteenth, and fifteenth centuries.

The Church of San Michele was at one time considered the most beautiful of the Lombard style. It was almost entirely altered and rebuilt in the eleventh and twelfth centuries, but the apse (Fig. 98) and interior still show a number of the features enumerated

above. Sta. Maria Toscanella (Fig. 99) is a later development of the same style.

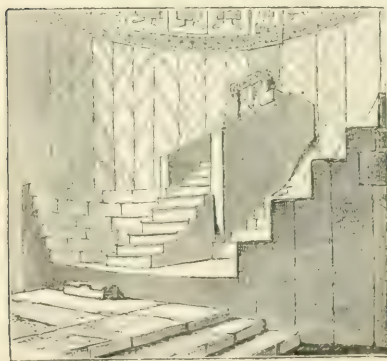


FIG. 100.—Apse of Basilica at Torcello.

In 770 Pope Adrian consecrated the first belfry at Rome. It was built detached from the church, and all belfries for several generations were treated in this way, and not considered

as an integral part of ecclesiastical edifices.

In 774 Charlemagne put an end to the Lombard dynasty, but supplied little to Italy in the shape of art; and from 875 to the year 1000 the struggles of rival ecclesiastics and rival princes blocked all architectural advance, save in a few cities like Genoa and Venice, where the inhabitants kept in

touch with Constantinople and the civilizations of the East.

A few exceptions, however, kept the arts alive—such as San Clemente, at Rome; San Ambrogio, at Milan; and San Giovanni Laterno, 910; while the Basilica of Torcello, though Byzantine in decoration, retained much of the best early Christian architectural treatment, especially in the apse (Fig. 100), which has been rendered famous in the picture by Jean Paul Laurens in the Metropolitan Museum of Art, in New York. In the year 1000 early Christian architecture may be said practically to end, and all further discussion of the subject is usually carried on under the names of round-arched Gothic or Romanesque.

CHAPTER X: THE MAHOMETAN OR SARACENIC STYLE.

INTRODUCTORY.

MAHOMETAN architecture properly begins with Mahomet, as the name implies, and the date of the hegira or flight of the prophet (622) is generally assumed as the point of departure for its history.

Before that date the Arabians possessed little knowledge of the fine arts, even in the fair Province of Yemen, where dwelt the people of Sanna, or Merab, "greatest of Arabia's forty cities." For, though history refers casually to artists and architects living long before the hegira, none of their works have come down to us; and even Sennamar, the most celebrated of these men, is better remembered for the picturesqueness of his death than the achievements of his life.

Sennamar was a Chaldean by birth, and built the castles and towers of Sedir, in the reign of Noman al Aouar, tenth king of Hira. Tradition tells us that "each building was entirely bound together by a single stone"; and, what was more miraculous, "the walls changed colour, chameleonlike, several times during the course of a day."

These things so pleased the king that he re-

warded Sennamar with many splendid gifts; but, being fearful lest the architect might erect similar towers for his enemies, he commanded that the unfortunate man be thrown headlong from the summit of his masterpiece. Hence arose the Arabian proverb "*the reward of Sennamar.*"

The *Kaabah* (square house), built by Mahomet at Mecca, is said to have been the first mosque. It consisted of little more than a rude tower without ornamentation, and is chiefly revered for being "the hub of the wheel of Islam," since it is the "*kibla*" or fixed point in the horizon toward which all the faithful turn when prayer is offered. This edifice was subsequently much enlarged and provided with colonnaded courts according to requirement.

Another "building of bricks and palm sticks" was erected at Medina; but these two temples seem to have supplied all the religious needs of the Arabs during the early part of the seventh century, and had Mahometanism been confined to Arabia, it is doubtful whether the so called Saracenic style would ever have existed.

But the architecture of Islam, like its faith, was not destined to be local, and as Syria, Egypt, and Asia Minor succumbed to the arms and belief of the Moslems, the caliphs converted the Byzantine churches into mosques, and built others according to the laws embodied in the Koran; and when finally the Crescent cut its way westward, through northern Africa, and into the Iberian peninsula, the Moors displayed an even greater degree of energy and architectural enthusiasm. Twelve thousand towns sprang into life along the shores of the Guadalquivir; and before the

ninth century Cordova alone boasted six hundred mosques, nine hundred baths, and ten miles of lighted streets.

Thus throughout Arabic civilization arose a brilliant architectural life, full of colour and warm-blooded imagination, and fertile in expedients for decoration and display; while from the Tigris to the Orontes, from the Nile to the Guadalquivir dismantled towns and temples were transmuted into golden cities and arid plains blossomed into Hesperian gardens with cool fountains and fragrant foliage pictorially pleasant.

The constructive principles of Saracenic art were chiefly borrowed from the Romans and Byzantines; but the scheme of decoration was acquired from the Persians, mainly in the reigns of the Abassides and Sassanides.

Thus nearly all Mahometan mosques have barrel vaults, domes, and pendentives, like the basilicas and cathedrals of Rome and Byzantium, but the fact that representations of living beings were prohibited by the Koran threw the Saracens back upon their own resources for decoration or compelled them to seek elsewhere, and the ceramic skill of Persia was temptingly close at hand.

Hence Arabic inscriptions, artistically lettered and jewelled with wonderful words, graceful interlaces of vines and plants called arabesques, and dainty damasquina designs of kindred themes were lavishly used, while everything was gemmed with brilliant colour distributed with the exquisite tact (as regards high notes and neutral tints) which we still see in the manufacture of Oriental rugs to-day.

Enamelled mosaics played a very important part in the colour combinations of ancient Arabic art, but these were later replaced by the cheaper, though effective, expedient of glazed bricks of variegated colour and polygonal shape, a popular product in Bagdad from the earliest times.

Another peculiarity, especially in Spain, was the employment of a series of superimposed niches, well named *medias naranjas* (half oranges), which not only filled the re-entrant angles of the pendentives, but often formed a species of stalactite entablature at the crown of an edifice.

Other architectural features to be noted are oval domes; arches, round, pointed, stilted, or horseshoe shaped; graceful minarets or towers (from the Arabic *minarch*, meaning point of light); and large surfaces stitched over in stucco with infinite patience and skill.

In a word, *constructively* the Arabs were little more than copyists; as *decorators*, they were almost second to none. For nothing can be less inspiring than an Arab house shorn of its ornament; few sights more moving than a mosque or *alcazar* tricked out in all the exuberance and splendour of Saracenic carving and colour.

THE EASTERN STYLE.

Mosques play by far the most important part in the history of Eastern Saracenic architecture, just as temples and cathedrals take the lead in the story of Greek and Gothic art; and therefore it is here in order to point out the salient features of these, the greatest products of Islam, and in so doing clarify

the terminology necessarily employed in a description of the rise and progress of the style.

One of the first characteristics to be noticed in the mosques of Arabia, Persia, India, and Asia Minor is their resemblance to Byzantine churches in being vaulted by a large cupola flanked by smaller domes, all constructed on the pendentive system. The *atrium*, however, becomes a colonnaded court with accessory buildings containing schools, colleges, libraries, asylums, etc.

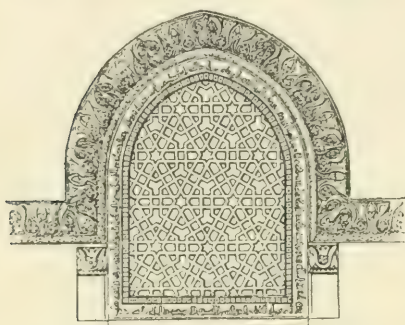


FIG. 101.—A Saracenic window.

The heads of doorways are round, horseshoe shaped, or pointed, as are also those of the windows, which, being used only for light and not to be looked out of, are closely filled with geometrical tracery (see Fig. 101), thereby imparting within an atmosphere of solitude mingled with the consciousness of neighbourhood.

Exterior walls are crowned with crenellated galleries and the corbelled or stalactite cornices mentioned above, while tall, slim minarets (garlanded with balconies from which the *muezzin* calls the faithful to prayer) prolong the pencilling of the skyline agreeably.

Only *djams* (great mosques) founded by an emperor are allowed four minarets. All others must content themselves with two; and these graceful belfries,

sometimes round, sometimes polygonal, form one of the most beautiful and characteristic features of a Mahometan city.

In Egypt and Syria the mosque is often an open court surrounded by a covered colonnade and containing a sanctuary facing toward Mecca, while a second court preceding it embraces public baths, rooms for travellers, and stabling for horses and camels belonging to the caravans; but in Turkey, where St. Sophia controlled the canons of taste, one finds none of these accessories and the *atrium* again makes its appearance.

Every mosque has its *mihrab* or sacred niche, adorned with columns of jasper, agate, or precious marbles, and many contain three.

On one side of the *mihrab* stands the *member* or pulpit, on the other the tribune of the Sultan or Seikh, while frequently in front rises a second daïs and canopy where the *iman* makes his prayer. But these, with the exception of rugs and hanging lamps, constitute the entire furniture and thus emphasize the complex beauty of the wall decoration.

HISTORY.

During the period succeeding Mahomet the ten years of the reign of Omar (634-644) were by far the most energetic.

Thirty-six thousand cities or castles were subdued, four thousand Christian churches were destroyed, and fourteen hundred mosques were erected on a scale of increasing splendour.

The first of these, popularly known as the "Mosque of Omar," was a comparatively simple place of wor-

ship, built by the great caliph in 637, on the spot where Julian the Apostate attempted to reconstruct the Temple of Jerusalem. It now stands near the more pretentious Mosque of Aksah, erected by Abd-el-Malek, his successor, and is still in tolerable preservation.

Under Abd-el-Malek and other caliphs of the Omiad dynasty the cultivation of art continued with like energy but less violence. Mosques, palaces, and gardens jewelled desert places like Greek gems set in pale gold, and cool fountains refreshed the hot, parched, and tarnished land. The capital was removed from Medina to Damascus, which was enlarged and made beautiful on a scale of magnificence only found among the absolute rulers of the East. Many a king's ransom was lavished upon the Mosque of Aksah, and the Caliph Wallid pulled down Justinian's old church of St. John and erected the great mosque bearing his own name, using the same materials. The example thus set by the commanders of the faithful was quickly followed by the governors of even the most distant provinces, and artificers of Chalcis, Heliopolis, Tyre and Casarea, Antioch, and Jerusalem thronged every city of the realm till each gained something of that delicate distinction which characterizes the arcades of Damascus and the balconies of Cairo.

El Aksah stands first among the monuments of the period. Its circumference, according to Amrecy, measured nearly a Roman mile or two hundred and fifteen toises in length by one hundred and seventy-two in breadth. These dimensions were accepted for a long time as authentic, but the discovery of

an old manuscript written by Arculphus (a Christian monk who saw the building about a century after its completion) has corrected these figures, and shows the mosque to have been about the same size as that

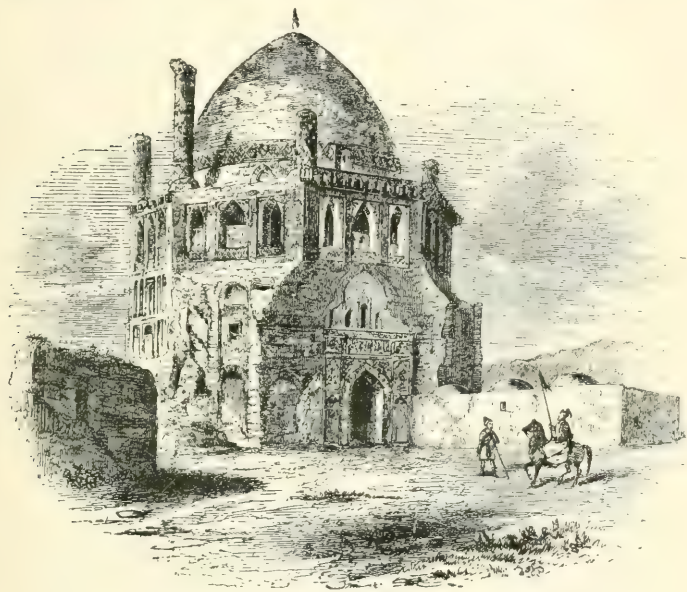


FIG. 102.—View of the tomb at Sultaneiah

of to-day, i. e., covering fifty thousand square feet, while the description of its appearance bespeaks little subsequent alteration.

Even more propitious to art than the Omiad dynasty were the caliphs of the Persian house of Al Abbas.

The capital, which had been removed from Medina to Damascus, was now transferred a second time ; and

Bagdad, founded by Almansur, soon set the mode in architecture to all Islam.

Little now remains of the glories of Bagdad under the Abassides and the Seljukian monarchs; for though the mosques and palaces were overlaid with gold and silver, and we are told that "no Moorish court ever reached a higher pitch of enlightenment and magnificence than that of Haroun al Raschid," still the constructive portions of the buildings could have been little more than wood, sun-dried brick, or other perishable materials, and we must depend almost entirely upon history for the generally accepted fact that Bagdad outstripped the splendours of Nineveh and Persepolis.

But of the period succeeding Genghis Khan, the *imaret* or hospital of Erzeroum, the mosques of Ani and Tabreez, and the tomb of Khodabendah, at Sultaneiah (Fig. 102), still remain in part to confound the sceptical, having walls incrustured in intricate interlaces of glazed tile (Fig. 103), far surpassing the painted plaster plaques of the Alhambra.

Meanwhile Akbar had carried his victorious arms into Egypt, and the Saracenic architecture of that country advanced steadily toward originality and perfection, until under the Fatimite caliphs a renewed civilization sprang up along the Valley of the Nile, and Cairo became at once the seat of empire and learning, and the successful rival of Bagdad.

Granite, porphyry, and Numidian marble contributed largely to the material splendour of the buildings, for the monuments of the Pharaohs, Ptolemies, and Cæsars were ruthlessly plundered. But the plans of the mosques, with their open courts and cov-

ered colonnades, showed a noteworthy emancipation from Roman and early Christian models, and the ordinary dwelling houses bore also a distinctive character.

In the dwellings the upper floors, occupied by the women, were marked externally by projecting

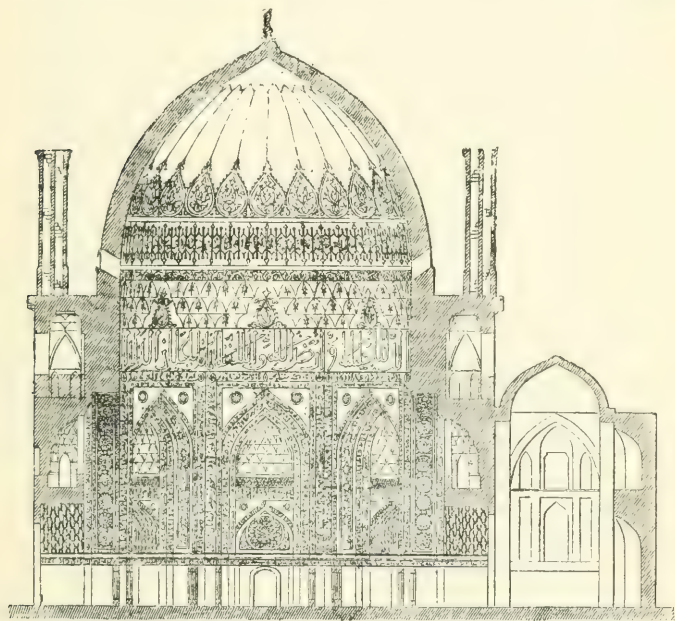


FIG. 103.—Section of the tomb of Sultan Khodabendah, at Sultaneiah.

balconies of latticed woodwork, which lent a picturesque aspect to the narrow streets and doubtless set the fashion to parts of India and to modern Turkey; while the reception rooms, on the ground floor, often boasted elaborate mural decorations, various as tulip beds agreeably confused, as well as the

divans, carpets, and hanging lamps common in Oriental homes.



FIG. 104.—Mosque of Ebn Touloun at Cairo.

The oldest mosque in Cairo is that erected by Amrou in 642, and rebuilt by Abd-el-Malek and

Wallid with materials from the older temples. A more impressive example in the same city is the Mosque of Ebn Touloun (Fig. 104), 876, conspicuous for the rugged grandeur and massive splendour characteristic of early work.

The architect, according to Macrisi, was a Christian, and refused to build the mosque of materials plundered from desecrated churches—a fact which his rivals were quick to use as a weapon against him. He was thrown into prison and grievously maltreated, but finally released when it was found impossible to dispense with his services, and his original design was carried out.

Other mosques of prominence are El Azhar (the Splendid), 989, those of Sultans Barkook and Hassan (built in the twelfth and fourteenth centuries respectively), Kaloun, and, above all, the little Mosque of Kaitbey (Plate XXIX), the purest gem of refinement and elegance in Cairo and the culmination of the Egyptian Saracenic style.

INDIA.

During the latter part of the tenth century, as Bagdad declined in art, India suddenly rose.

This renaissance began at Ghazni, where Subaktagin, formerly a Turkish slave, had made himself independent governor and founder of the Ghaznvides. His successor, the great Mahmoud (977–1030), conquered all India; but, being a man of taste as well as of war, devoted much of the spoil to embellishing his capital, and soon Ghazni was transfigured into a fairy land of mosques, palaces, gardens, fountains, aqueducts, and reservoirs equal to any city east of the Nile.

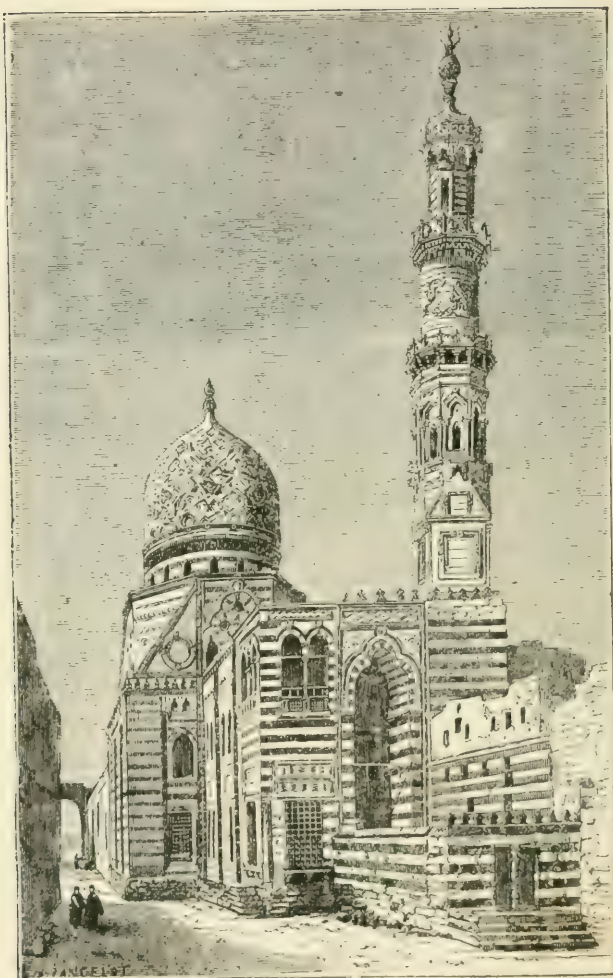


PLATE XXIX.—Mosque of Kaitbey at Cairo.

After the decay of the Ghaznivide dynasty India passed successively under the rule of the Ghorians,

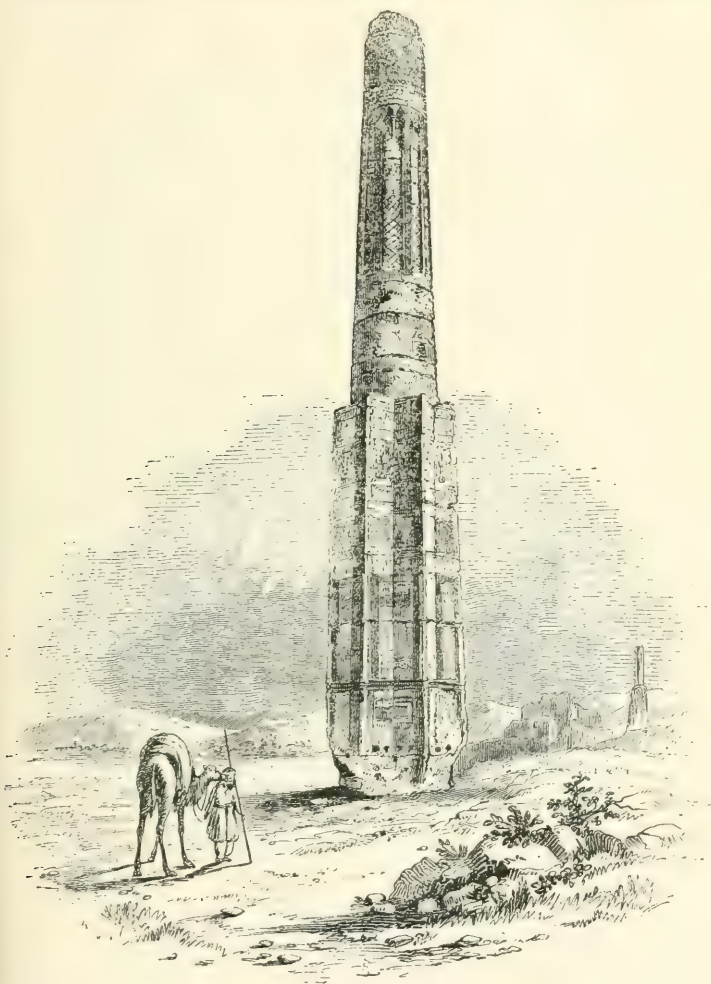


FIG. 105.—Minar at Ghazni.

Pathans, and Moguls; and Mahometan architecture continued to be the ruling style down to the year



FIG. 106.—Gateway of Jumma Mesjid, Jaunpore.

1707, when, after a period of anarchy, the country fell into the hands of the English, and art of every kind, being elbowed out of the way by commerce, came to an abrupt stop.

Of the splendours of Ghazni only two sturdy old

Minars remain in good preservation (Fig. 105), which, though striking, are rendered even more impressive by the ruin and desolation surrounding them. The cities of later dynasties have been more fortunate, as may be seen in the ruins of Kootub, the mosques of Jaunpore with their splendid gateways (Figs. 106 and

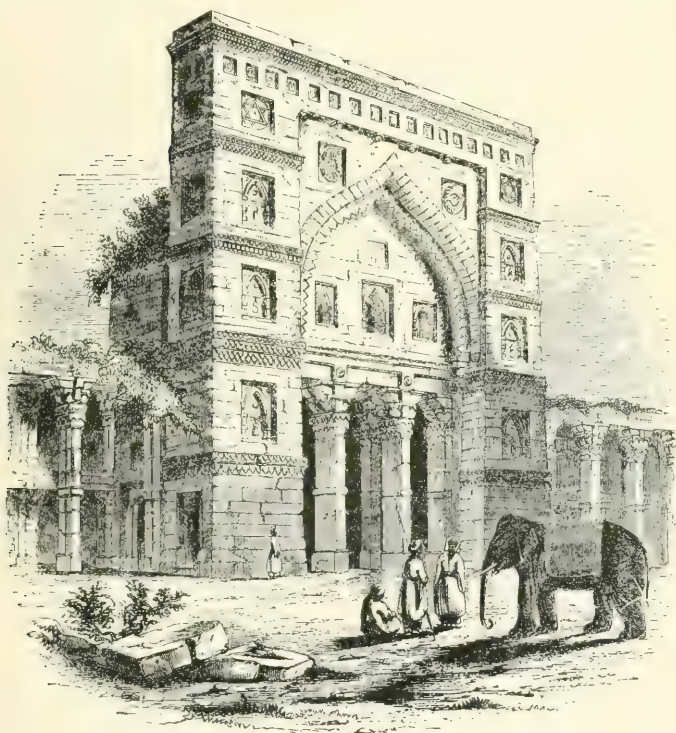


FIG. 107.—Gateway, Lall Durwaza Mosque, Jaunpore.

107), and the Mogul places of worship at Delhi and Agra (Plate XXX), which, as regards design and dis-

tribution, are by far the most imposing specimens in Saracenic architecture.

All the Moslem hordes which swept over India were from first to last of purely Tartar origin, and hence great tomb builders, so that it is among this class of buildings that one finds their most characteristic work; and though in Egypt, Persia, and other Mahometan countries the tombs are attached timorously, almost apologetically, to the mosques, in India the mosques are more often attached to the tombs.

The intrinsic beauty of even the simplest of these last resting places may be understood by examining Fig. 108.

True, this is but a poor reproduction of a nameless tomb on the plain of Delhi, while Agra, Beejapore, Golconda, Mando, and indeed the whole Valley of the Ganges abound in examples which surpass it as substance surpasses shadow; but this modest little tomb is cited to show how high was the average merit in this branch of art.

Indian tombs reached their highest form of expression under the Mogul emperors. They were usually situated in spacious gardens surrounded by high crenellated walls and entered by one or more splendid gateways. The building itself was either square or octagonal, with four imposing entrances, and crowned by a large central dome and smaller supplementary domes.

The whole mass stood upon a lofty terrace, from which four marble-paved alleys bordered with fountains, fruit trees, and cypresses usually radiated.

During the lifetime of the future occupant the

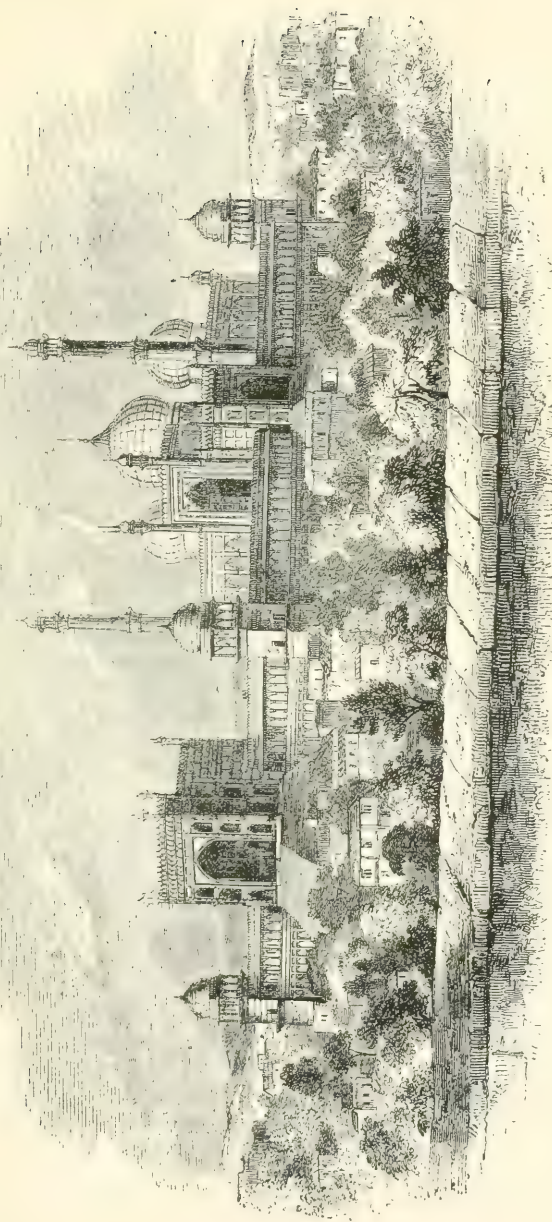


PLATE XXX.—Great Mosque at Delhi.

building was used as a festal hall, or place of general recreation, but at his death it was handed over to the care of priests, and assumed the serious attitude of its original intention.

One of the best examples of this class of edifices is the celebrated Tage Mehal, built by Shah Jehan at Agra for his favourite wife Moomtaza Mehal.

Concerning the ornamentation Mr. Fergusson writes: "It is in this building that we first find that

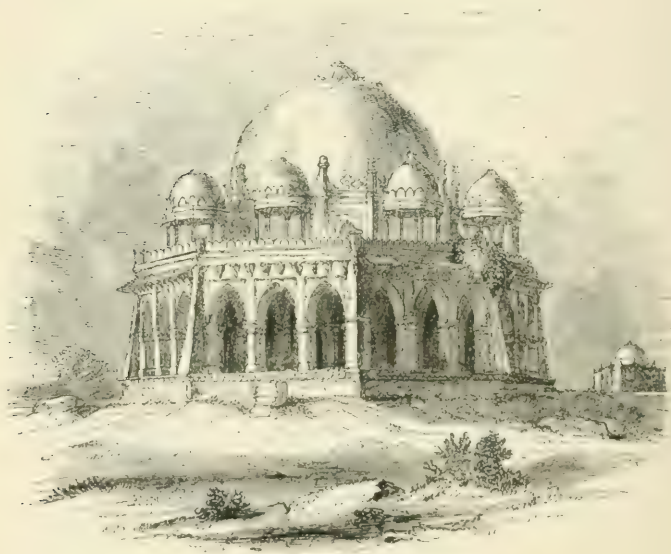


FIG. 108.—Nameless tomb at old Delhi.

system of inlaying with precious stones, such as agates, bloodstones, jaspers, and the like. These are combined in wreaths, scrolls, and frets, as exquisite in design as they are beautiful in colour, and relieved

by the pure white marble in which they are inlaid, they form the most beautiful and precious style of ornament ever adopted in architecture. Though of course it is not to be compared with the intellectual beauty of Greek ornament, it certainly stands first among the purely decorative forms of architectural design."

THE WESTERN STYLE.

While the Eastern Arabs were embroidering Syria, Persia, Egypt, and India with fabrics of architectural beauty, the Western Arabs displayed no less energy and enlightenment.

War and conquest were the foundation stones of *their* civilization just as in the Moslem countries of the East, and the older monuments of Barbary and Spain had first to suffer death before they could be born again in Saracenic splendour. Five hundred episcopal churches were destroyed on the march from Tripoli to the Atlantic, and their fragments form parts of the houses of Algeria and Tunis to-day; while Carthage was ruthlessly rifled to adorn the imperial Mosque of Cordova.

In Spain the instances are innumerable in which the foundations of Roman ruins are surmounted by Saracenic superstructures, and in this respect the Western Arabs were, in a sense, unique, for "*no people ever constructed so many superb buildings who extracted fewer materials from the quarry.*"

But whatever the method employed, and without considering whether the end justified the means, the effort on the part of the Omiad caliphs in Spain to rival the buildings of Cairo, Bagdad, and Damascus was successful; and from the handful of Moorish

adventurers who invaded the peninsula in the eighth century arose a nation instinct with intellectual subtlety in art, full of warm, fervid imagination, and endowed with the delicate organization of the Asiatic,

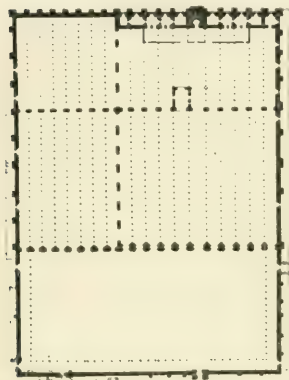


FIG. 109.—Plan of Mosque at Cordova.

to whom exuberance of ornament may be safely entrusted with the certainty that it will never be allowed to degenerate into vulgarity.

Laborde divides Moorish architecture into three distinct periods. The first extends from the conquest to the ninth century, and shows frankly the Roman and Byzantine influence; the second and purest lies between the ninth and the thirteenth centuries, during which all

foreign characteristics disappear; while the third or era of decadence bridges over the time between the thirteenth century and the fall of the empire.

The most characteristic building of the first period was the *Mosque of Cordova*; that of the second, the *Alhambra*, with its crescent arches and airy lightness of treatment; while Segovia, Benevente, and the like abound in examples of the decadent or Mudejar era, in which the new ideas of the Italian Renaissance were badly assimilated by the native style. The Mosque of Cordova was begun in 770 by Abd-el-Rahman on the site of an ancient temple of Janus (which in the time of the Goths had been consecrated to St. George), and was finished by his son Hescham in 795.

The portion built by these two includes the eleven western aisles of the present mosque (Fig. 109), which at the time completed the building. El Mansor, however, added eight more aisles to the east, making a superficies of one hundred and sixty thousand square feet, an area considerably larger than that of any Christian cathedral except St. Peter's.

In the interior (Plate XXXI) columns of porphyry, jasper, green and violet breccia, and other costly materials, crowned with wide Corinthian capitals, spring into the air, forming endless perspectives of marble forestry. Above bend two tiers of arches, which in the *mihrab* intersect, the upper tiers springing from the keystones of the lower.

The old Arab ceiling with its richly carved caissons and lozenges has been replaced by brick vaults, and the rare species of larch composing it has now been sold and made into violins and guitars.

This brings us to the question of the extraordinary ability of the Moors to preserve wood, concerning which facts speak for themselves, for though history tells us that the gate of cypress belonging to the Temple of Diana at Ephesus lasted nearly four hundred years, and that the gate of old St. Peter's remained undecayed for five hundred and fifty years, a more extraordinary example may be cited in the ceiling of the Mosque of Cordova, which on removal showed no signs of decomposition whatever, although it had been in use *eleven centuries*.*

The sanctuary, built by Hescham, is justly held the masterpiece of the mosque. The vestibule is

* See Voyage Pittoresque en Espagne.

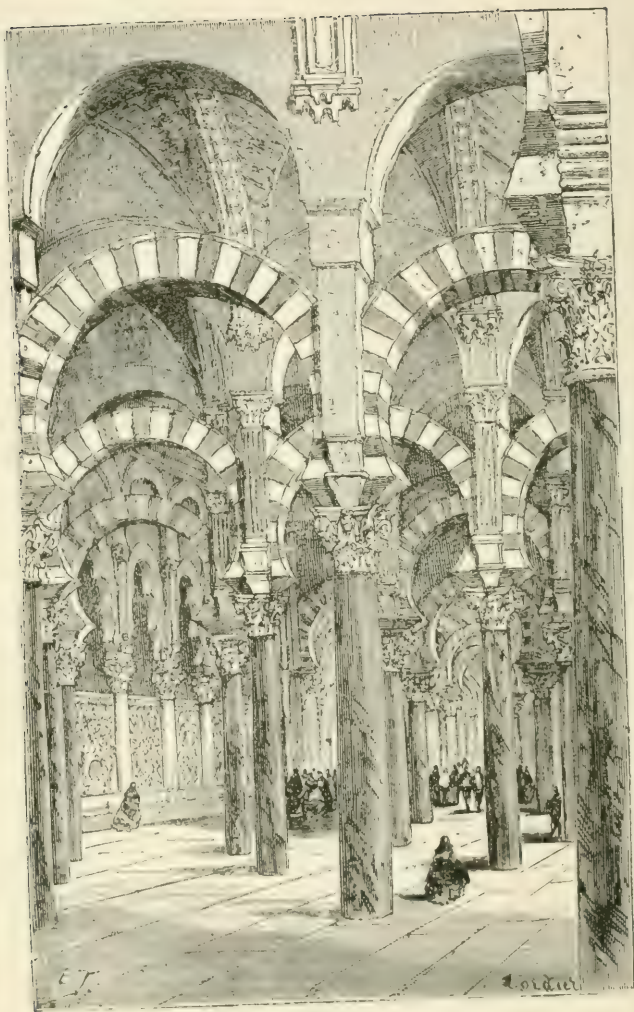


PLATE XXXI.—Mosque of Cordova.

vaulted with intersecting beams elaborately carved and powdered with golden stars; the windows are traceried with golden filigree; and the surfaces blaze with broken-tinted mosaics, in which verses from the Koran in gilded crystals wind gracefully among intricate arabesques; while above the *mihrab* bends a vault composed of a single block of marble chiselled with infinite charm, adorned with niello work, and carried on jasper columns.

When Ferdinand took Cordova, in 1236, the mosque was consecrated to the Catholic *cult*, and since then it has undergone architectural changes too severe to be successful.

Fifty-two chapels have been added, the *mihrab* and vestibule are converted into a sacristy and chapel to San Pedro, and in the sixteenth century a space was cleared in the centre, a Latin cross was made, and a choir of rococo design was thrust into an important position.

Charles V, who visited the mosque after these questionable improvements, rated the monks soundly for their iconoclasm, but the mischief was done and the ruin past redemption.

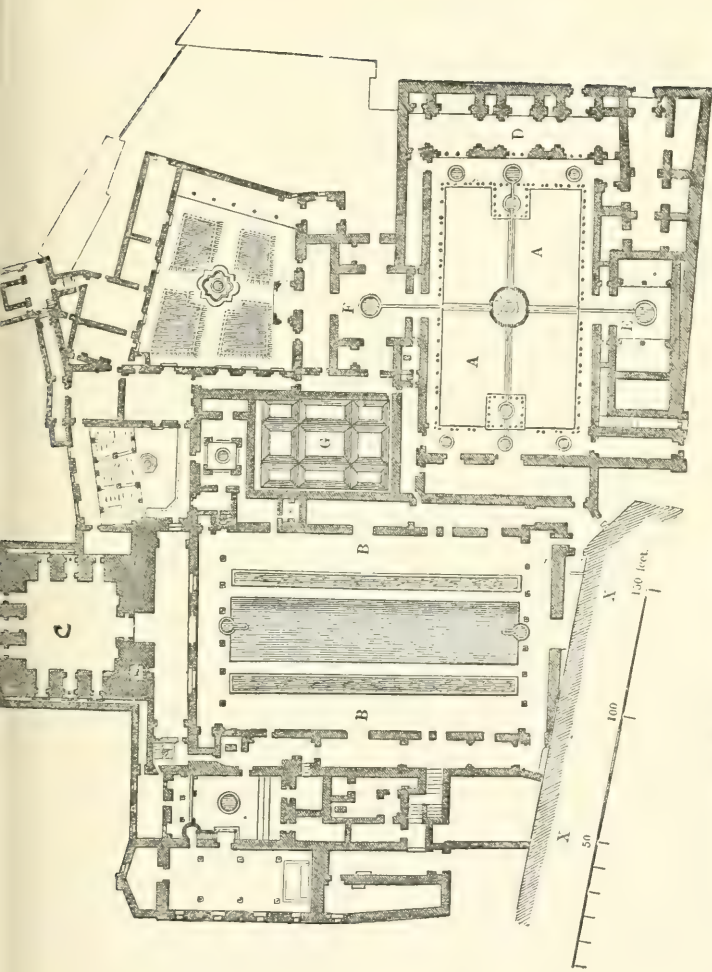
No treatise on Moorish art is complete without a reference to the Alhambra, yet history asserts that if the Palace of Zahra still existed we might afford to despise this *chef-d'œuvre* of the second period. But Zahra is dead, while the Alhambra still lives in art, song, and reality—an ever-present joy to the dilettante of things delightful.

Medinet Alhamra, or the Red City, was at once the citadel and architectural climax of Granada—a metropolis in which every private house and public

edifice had its own garden, set thick with orange, lemon, and citron groves or laurels and myrtles interspersed with cooling fountains, the gifts of munificent sovereigns. It was begun by Mahomet ben Alhamar and continued uninterruptedly by his successors for over half a century.

Fortress, palace, and Persian *paradisos* though it was, all nevertheless showed logical consistence in the highest degree. Thus, while the fortification walls are eighteen feet in thickness and still impregnable, the domes and arcades of the pavilions, courts, and residential portions are formed of casts light as wood. These casts, however, have become as hard as marble, and though a thousand years have passed away, many still remain perfect to prove the Arabs' intimate acquaintance with the properties of carbonate of selenite. The principal rooms are (Plate XXXII) the Hall of the Ambassadors, "arched so high that giants may keep their turbans on"; the Hall of the Sisters, with ingeniously constructed domes; the Court of the Lions, so named from its exquisite fountain resting on lions' backs; the Hall of Abencerrages; and the Court of the Alberca, in which a pool of crystal water was fed by a continuous stream that kept it at a constant level with the surface of the marble floor.

To describe these individually would exceed the limits of this sketch; but a few facts common to the majority of them should be here enumerated. Thus while the halls and turret chambers of contemporary kings and queens of other countries were strewn with rushes and skirted by rough mats, the walls, columns, and ceilings of the Alhambra were sheathed in por-



A, A, Court of Lions; B, B, Court of the All area; C, Hall of Ambassadors; D, Hall of the Tribunal;
E, Hall of Abencerrages; F, Hall of the Sisters.

PLATE XXXII.—Plan of the Alhambra from Le Normand.

celain mosaics or plaques with intricate interlaces of gold, silver, purple, and azure in relief.

Each tile was doubtless executed separately with infinite patience and care, but the settings are so skilfully contrived that few of the joints appear.

The doorways are large, the windows small, and the friezes and architraves richly illumined with Cufic or Asiatic inscriptions, such as "There is no God but God," "There is no Conqueror but God," and the like; while an apologetic sentence inserted by the architect reads: "My windows admit the light, and exclude the view of external objects, lest the beauties of Nature should divert your attention from the beauties of my work."

Other forms of decoration are knots, crockets, arabesques, and, above all, the *key*, which is held in much the same reverence by the Mahometan as the cross by the Christian.

Little furniture now remains, but formerly it was particularly elaborate throughout and composed of citron, aloe, and sandal wood, picked out with blue and inlaid with ivory and mother-of-pearl; while curious vases

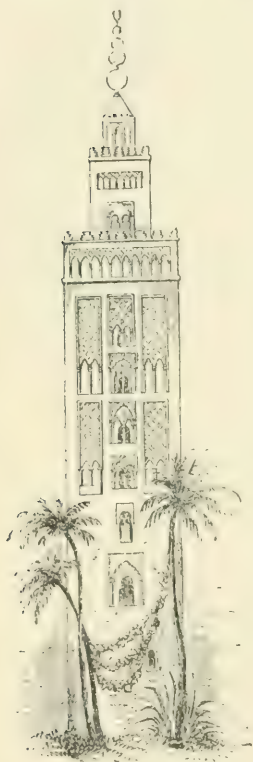


FIG. 110.—Giralda Tower.
From a drawing by Girault de Prangey.

of sardonyx, rock crystal, porcelain, and mosaic filled the corners. Flowery carpets and softly cushioned couches encouraged drowsy repose, and filtered fountains, kept at a constant temperature, perfumed the atmosphere with the fresh clean smell of washed air after a storm.

But the most astonishing fact concerning the Alhambra is the durability of the woodwork, which was

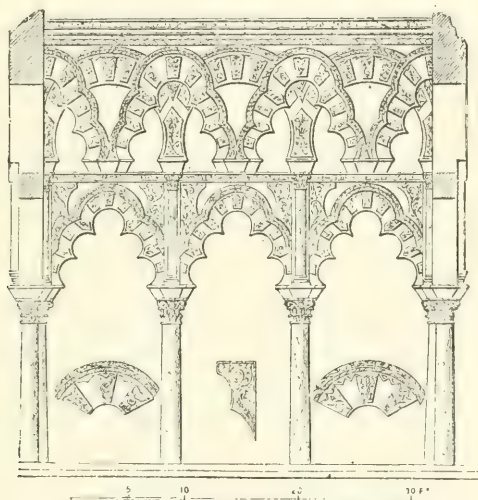


FIG. III.—Screen of the Chapel of Villa Viciosa in the Mosque of Cordova.

so treated that all worms, spiders, and other insects invariably shun it, and now, though six hundred years have passed, there still appear no signs of dry rot or decay. Woodwork added by later sovereigns is frequently found covered with cobwebs, but that of the thirteenth century ever remains

unclouded and bright as the day on which it was set up.

Spain boasts no minarets save one, the Giralda Tower, at Seville, said to have been designed by El Gebir, the inventor of algebra. Its vaulting is accomplished by thickening the walls gradually, as they rise from the ground, until they meet; a very inferior method, and quite unworthy of the great mathematician. This tower is now surmounted by a Renaissance top designed by Fernan Ruiz, which, though exquisite in itself, is quite out of keeping with the substructure. The restoration suggested by Girault de Prangey would doubtless be much more appropriate, even if less beautiful (Fig. 110).

The third period of Moorish architecture has been barely touched on above, but more elaboration of detail is scarcely necessary.

The Chapel of Villa Viciosa in the Mosque of Cordova belongs to this style, and from the illustration (Fig. 111) it will readily be seen how ill-adapted are the fussy crooked lines of its arches to the sweet severity and simple elegance of the supporting Corinthian columns.

Inconsistencies of this kind are characteristic of the entire period.

TURKEY.

It only remains to mention the Turkish phase of Mahometan architecture, which of all the Saracenic styles shows the least originality and skill.

Here are few light piers, pointed arches, and airy domes hanging in space, and no warm internal colouring comparable to Moorish or Egyptian handicraft.

On the contrary, one usually finds the piers heavy, the arches round, and the domes often supported on columns instead of springing lightly from pendentives alone, while all the blazonry of colour peculiar to Saracenic art is lavished on the interiors, leaving the exteriors cold, dull, and meaningless.

The fountains, however (Fig. 112), are often full of playful fancy and delicate, fictile form, and flash with

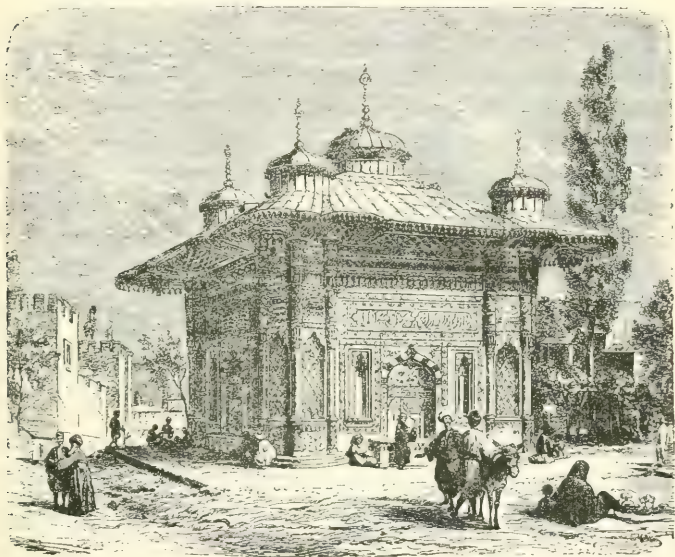


FIG. 112.—Fountain at Constantinople.

iridescent colour, like the broken flame of an opal. But here originality ceases, and in the building of mosques the Turk has preferred making poor adaptations of *Sta. Sophia* to evolving new forms out of the beautiful Arabic art lying ready to his hand.

The mosques of Ayoub, Suleiman, and Achmet are the finest.

The first was erected by Mohammed II in memory of the standard bearer of the Prophet who fell fighting for the cause. It is held the most sacred of all mosques, and no Christian has ever penetrated its hallowed precincts. The author, however, was fortunate enough to obtain a glimpse of this forbidden sanctuary, which nevertheless ill repaid the trouble, since it exactly resembles all the others, save in simplicity and the fact that it contains the sword of the Prophet, which every Sultan must have belted upon him before he can be proclaimed king.

In this mosque the *atrium*, so popular among the old Roman basilicas, has been retained or rather revived, and the later mosques of Constantinople have followed the fashion thus enforced.

The most characteristic example of all the Turkish mosques is that designed by the great architect Sinan for Suleiman the Magnificent in 1550 (Fig. 113). Here we find the plan and domical arrangement of Sta. Sophia frankly copied (compare Figs. 82 and 113) and the *atrium* retained, while a mausoleum in a garden at the back recalls the Tartar origin of the builders.

Blue and white are the dominant notes of the interior, which combine to form a very striking *ensemble*; but the tomb at the back with its walls incrustured with precious stones is even more effective. In this great jewel box lies the founder, companioned by Suleiman II, the "Stupid," and Achmet II, the eccentric Sultan who died from dosing himself with distilled water.

Forty-five million piasters are said to have been

lavished upon this mosque by Suleiman, who in his enthusiasm worked personally among the labourers in order to encourage them.

The Ahmediye or Mosque of Achmet I is a pleasing pyramid of bubbles built out of the remains of the Hippodrome, and is the only Mahometan place of worship save the mosque at Mecca which boasts six minarets. The interior effect has been much injured by the use of columns supporting the dome; but this is somewhat counterbalanced by the beauty of the exterior, which is sheathed in tiles belonging to a lost ceramic art.

The sky line of the Ahmediye is very effective viewed by any one sailing down the Sea of Marmora, and it is the last thing visible before the Golden Horn melts into the Bosphorus or fades away into heliotrope against the eastern sky.

Of the *Validé* mosques (or Sultan's mother mosques)

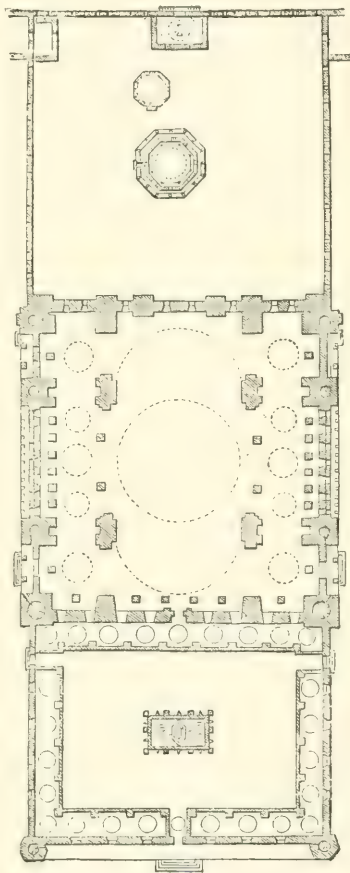


FIG. 113.—Mosque of Suleiman.

little need be said save that they are generally small, picturesque, and plentiful. The palaces have been correctly characterized by Lamartine as "gardens filled with tents of gilded wood," while the ordinary dwelling houses demand hardly more consideration. The latter are painted red, yellow, or green, are all built the same in height to prevent people from looking in at one another, and are perforated irregularly by windows filled with trellis-work tracery.

During the last fifty years a species of Turkish renaissance has asserted itself, and with no small degree of success.

To this style belong the royal palaces of Dolma Baktché (1853) and Beyler Bey, built by Abdul Aziz (1865); but they can scarcely be said to come under the head of Saracenic art, and are only cited to show, that though Mahometan architecture relapsed into a serious state of decay under Turkish thralldom, it may yet rise again, and under a new name and new aim achieve a new triumph under the glorious guidance of the Renaissance.

CONCLUSION.

In summing up judicially the various values of Mahometan architecture, it can not be said to rank very high as a style; the reason being that throughout its evolution *no new constructive principle was generated*, such as the column and lintel of the Greeks and Egyptians, the arched construction of the Romans, or the pendentive system of the Byzantines. Without a new constructive principle any architectural style is invertebrate, and, at best, can only be a superior

scheme of decoration applied to the constructive inventions of others.

Not even the horseshoe arch can be classed as a *new* principle, since the true arch begins at the level of the centre of each side, the lower portions of the curve being simply a form of bracket with the sole purpose of pleasing the eye.

But as regards ornamental exuberance controlled by good taste, the Saracenic style stands second to none, and for this, the world owes it a debt of gratitude.

CHAPTER XI: THE ROMANESQUE STYLE, SOMETIMES CALLED ROUND-ARCHED GOTHIC.

ROMANESQUE is a term invented by M. de Gerville in 1825 to denote the first great period of Christian architecture belonging to the Middle Ages.

As a style it has been comprehensively defined as "the outgrowth of a debased form of Roman architecture which, influenced by Byzantine and Arabic art, formed a distinct method of building throughout the West for nearly two centuries after the year 1000 A. D.," having "the alternate name of Norman in Normandy and in England."

Unlike the Moorish architecture described in the last chapter, the Romanesque can quite fairly lay claim to the title of a "style," for in it was developed *a new constructive feature*, an original theme, on which nearly all the later harmonies of form in Gothic art were built.

This was the "*vault*."

Before discussing this technical point, it will be well to glance at the conditions attending the birth of the new movement.

Civil war had ceased; the Norman invaders had retired, and the monasteries were filled with those

who, preferring art to war, had taken refuge therein in order to pursue their peaceful callings. Again feudalism was established, chivalry aroused with its attendant cultivation, and a renaissance in learning, which is ever followed by a revival in art, had made itself felt under the guidance of the scholastics.

Above all, the material requirement was at hand and abundant, for the great fear that the day of judgment would occur in the year 1000 had swept over all Europe with a more than beneficial effect upon the treasuries of the Church, and king and baron, lord and villein, prince and pedestrian, all turned over their lands or possessions to the abbeys and monasteries.

There in tranquil retirement dwelt the most cultivated portion of the community, cultivated not only morally and intellectually, but secularly as well.

Thus "it was one of the first duties of an abbot, prior, or dean to be able to lay out the plan of a church and direct its construction." Tutilo, a modest monk of St. Gall, was a poet, architect, orator, singer, carver, musician, and worker in chased silver; and it was a law and requirement of the Order of St. Benedict that every brother learn "some fair handicraft or trade," for this was before that inadvertent day when friars merely fattened or devoted their lives to the arts of distillation and the refectory.

Here in the dreamy quiet and contemplation of the cloister these good brethren thought and worked sincerely, honestly, and for a purpose—solely for the glory of God, and in all humility. Hence, though the chief architect was often nothing more than a simple monk, priests sprung from princely houses

held it no disgrace to work under his direction, and willingly shared in the manual toil of the masons and ordinary labourers.

It is doubtless owing to this humility and singleness of purpose that so few names have come down to us, for aside from Jean de Vendome, architect of the Cathedral of Le Mans, Gondulphus, Bishop of Rochester and builder of St.-Étienne at Caen, Hade-

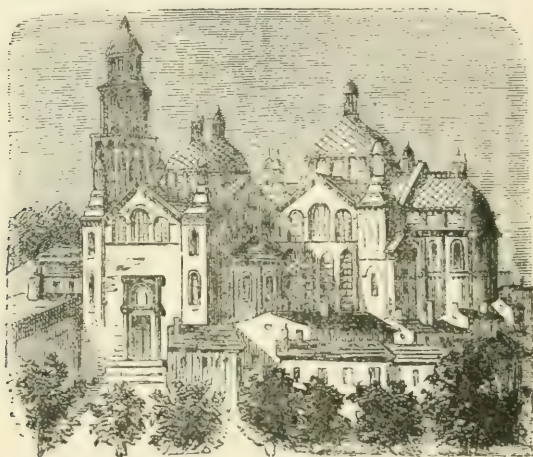


FIG. 114.—Saint-Front, at Périgueux, showing cupolas.

lon of Liège, and a few others, the Romanesque artists preferred leaving monuments to names.

As may be gathered from the above, Romanesque architecture was essentially a monastic style, just as the later Gothic or pointed architecture was dominated by the laity. Abbeys and their churches, not cathedrals, are the important examples for study, except among the free towns of Germany and along the

banks of the Rhine ; but even among these the monasteries of Fulda, Hildesheim, and Ratisbon hold well their own as arbiters in the affairs of art ; while in France, the cradle of the style, all the art of every province was governed by the monks, and Burgundy, Anjou, Auvergne, Poictou, Normandy, Périgord, and Isle-de-France had each its monastic school, identical in aim, but differing in detail.

As the Byzantine architects of the East had chosen the Roman basilica for their point of departure, so also did the Romanesque architects of the West choose it as their basis of evolution. The nave, aisles, transept, and apse were all retained, and, for a time, the flat wooden ceiling as well, a beautiful example of which has been preserved in Peterborough Cathedral, but the simplicity with which Saracens, Hungarians, and Normans had destroyed thousands of churches by merely setting fire to the roofs had taught a practical lesson, and hence to invent a *vault* and avoid the use of wood in ceilings was the first great problem.

In Anjou, Périgord, and Poictou all advance toward an original solution of the problem was hindered by Byzantine influence, for, aside from the intimate communication ever maintained between these provinces and the East, hoards of pilgrims and Templars had returned full of enthusiasm for the Oriental monuments which they had seen ; and, as these gentry contributed largely toward the erection of

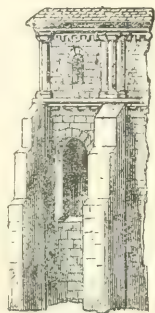


FIG. 115.—Buttresses.

churches, we find cupolas on pendentives used almost exclusively in servile imitation of St. Sepulchre, and exhibited triumphantly in St.-Front, at Périgueux (Fig. 114), St.-Pierre, at Angoulême, and the monastery at Fontevrault.

But the builders of eastern and central France showed greater independence, and to the patient monks of Cluny, Clermont, and Toulouse we owe the



FIG. 116.—Norman groined roof.

final solution of the problem and the success of the style. The first effort was naturally made with a circular tunnel vault, or barrel vault, as it is sometimes called, but when this was placed over a nave its natural tendency was to push outward the walls on which it rested. To place buttresses at isolated points on the outside (Fig. 115) was obviously of no avail; to place innumerable buttresses side by side, or, in other

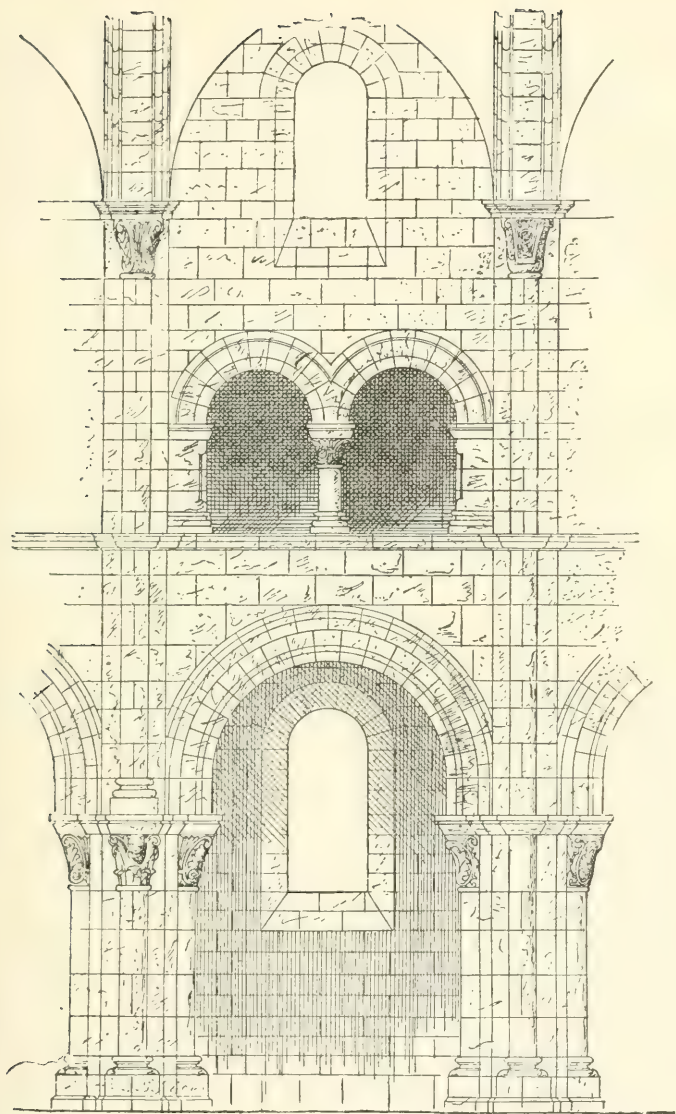


PLATE XXXIII.—Romanesque construction ; longitudinal section.
From Tuckerman.

words, to thicken the walls to an enormous extent, would be at best a clumsy expedient, occupying much valuable ground and converting the windows into small ill-lighted tunnels. Finally, after many fruitless attempts, the solution of the problem was discovered at the Clunisian monastery of Vezelay, in Burgundy, the result being a *groined roof* or vault (Fig. 116), in which "two diagonal ribs or cross springers were framed in between semicircular arch ribs, thereby transferring the whole weight to the four points at the angles where stood the piers." The strain on these piers being very great, it was deemed advisable to strengthen them by external buttresses, which were connected with the nave piers by means of arches called flying buttresses, while a weight in the form of a pinnacle was placed over each buttress to counteract the pressure (Plates XXXIII and XXXIV).

The practical common sense of this arrangement was so evident that it soon became very popular, and the wealth of the monasteries increased its advertisement. Thus Cluny alone possessed two thousand abbeys, scattered over all Europe, and Clermont, Toulouse, and other schools had their foreign evangelical centres as well. Therefore throughout Normandy, England, Germany, Italy, Spain, Flanders, and even in Scandinavia, the vault and flying buttress became the basis of building, the bones or framework of every structure which would admit of their use.

Every Romanesque church was "oriented"—i. e., had its apse pointing toward the east, which was treated more elaborately than in the Latin or early

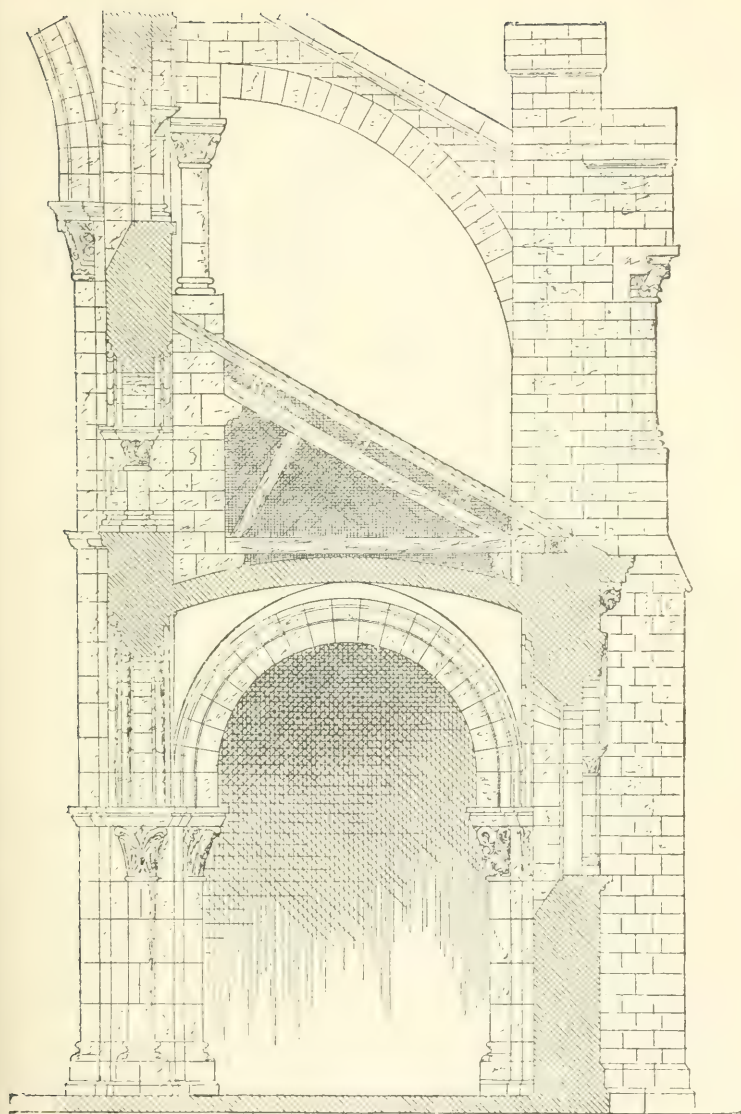


PLATE XXXIV.—Romanesque construction ; transverse section, showing flying buttress. From Tuckerman.

Christian period, being often surrounded by radiating chapels, as in Notre Dame du Port, at Clermont (Fig. 117). But as the principal entrance was on the western side, this façade became the most elaborate, as may be seen in the Church of Notre Dame at Poitiers (Plate XXXV).

The façade was usually surmounted by a triangular gable, and often flanked by sturdy towers. Blind

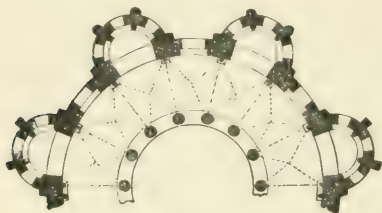


FIG. 117.—Apse of Notre Dame du Port at Clermont. From Chapuy.

arcades and bands of interlacing arches called "*arcatures*," bas-reliefs of religious subjects, and symbolical carvings incrustated the wall spaces, while deep round-headed windows and doors

broke the gray complexity with misty purple interruptions. A large circular window or *œil-de-bœuf* frequently held a prominent position, and this afterward developed into the beautiful rose windows so popular during the Gothic period.

In Italy and many parts of France the porch became a tribunal, where the abbot or bishop sat as judge on certain questions of crime or dispute, especially when plaintiff and defendant were unwilling to carry the case before a feudal lord, where such matters were settled by force of arms. In these porches the columns and their archivolts were often supported on either side by couchant lions, as in St. Zeno, at Verona, and St. Trophyme, at Arles (Fig. 118), from which arose the expression of "*inter leones*"

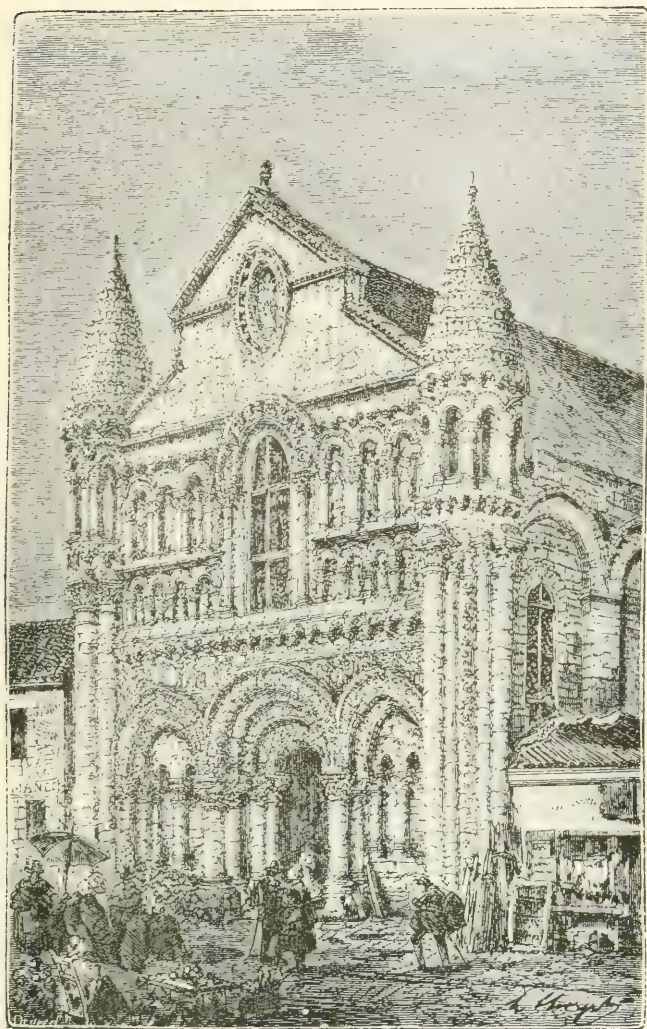


PLATE XXXV.—Façade of Notre-Dame-la-Grande at Poitiers.

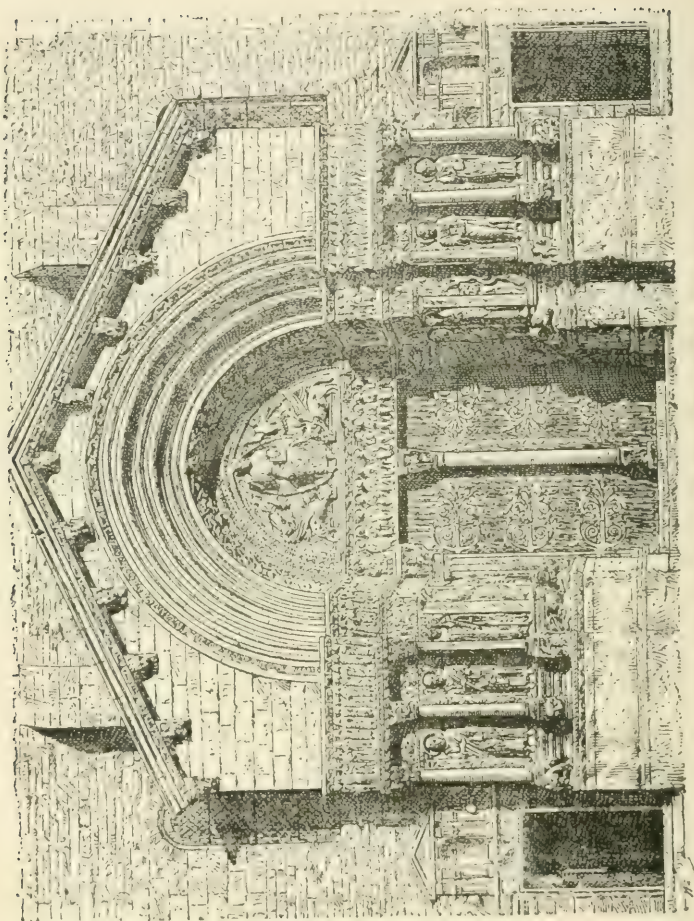


FIG. 118.—Doorway of Saint Trophyme, at Arles.

(between the lions), found in nearly all legal documents of the Middle Ages.

The mouldings surmounting the doorways played a pleasing ornamental part, being generally decorated

with bands of zigzagged and twisted adornment, flowers, grimacing heads, billets, and stars, doubtless due to Byzantine influence. Each band rested on a colonnette, and the tympana were masked by bold bas-reliefs of well-distributed sculpture.

These fair portals, full of delicate and delightful distinction, have been charmingly described by Mr. Van Brunt in the following verses :

“ The narrowing arch is deep and wide ;
Niched in its jambs on either side,
Shaft beyond shaft in ordered state
Stand on their solid stylobate,
Their lofty capitals upholding
Archivolt and fretted moulding ;
Arch within arch, with lessening leap,
From shaft to shaft concentric sweep,
Echoing inward o’er and o’er,
Inward to the vaulted door.
Every arch by subtle hand
Wrought with roll or bead or band,
Wrought with fillet or with fret,
Dentil, billet, or rosette,
While between the sculptured rings
Angel choirs spread their wings,
And soaring as the arches soar
With viol and with voice adore.
For, the happy masons said,
As the radial stones they laid,
Truly wedged with every joint,
Loyal to the central point,
And by touch of chisel taught
Utterance of human thought,
Let the choral arches sing
Joyfully a welcoming.”

A doorway of this kind may be seen in the abbey Church of St.-Gilles, in Languedoc (Fig. 119), immor-

talized by Prosper Mérimée and frequently cited by Viollet-le-Duc.

In towns subjected to Arabic influence, the alternate voussoirs of arches were of different coloured stones, while the piers and walls were banded. This treatment was very popular among the Italians, to

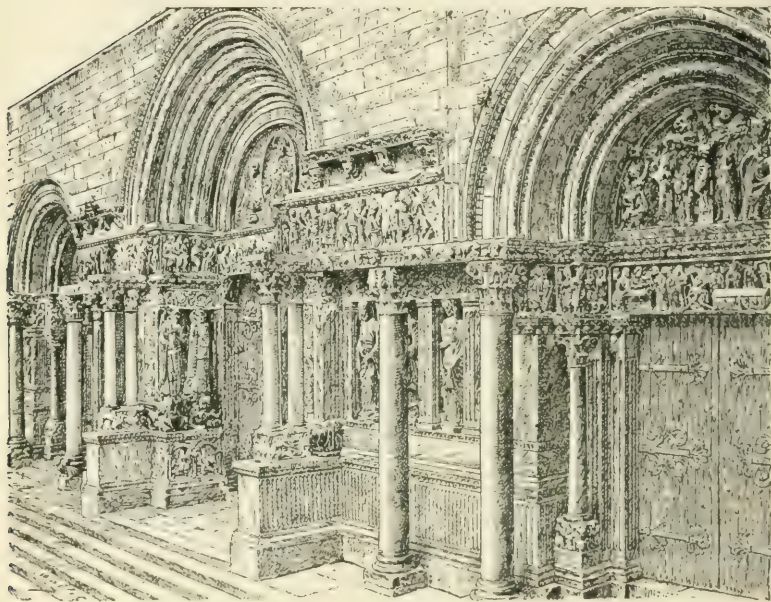


FIG. 119.—Church of St.-Gilles, in Languedoc.

whom also we owe the introduction of the blind arcades mentioned above and well represented in the Cathedral at Pisa (Plate XXXVI).

No cornice ever beetled above Romanesque buildings, but a plain parapet, with often a row of blocks beneath, stretched its way along the top (Fig. 120).

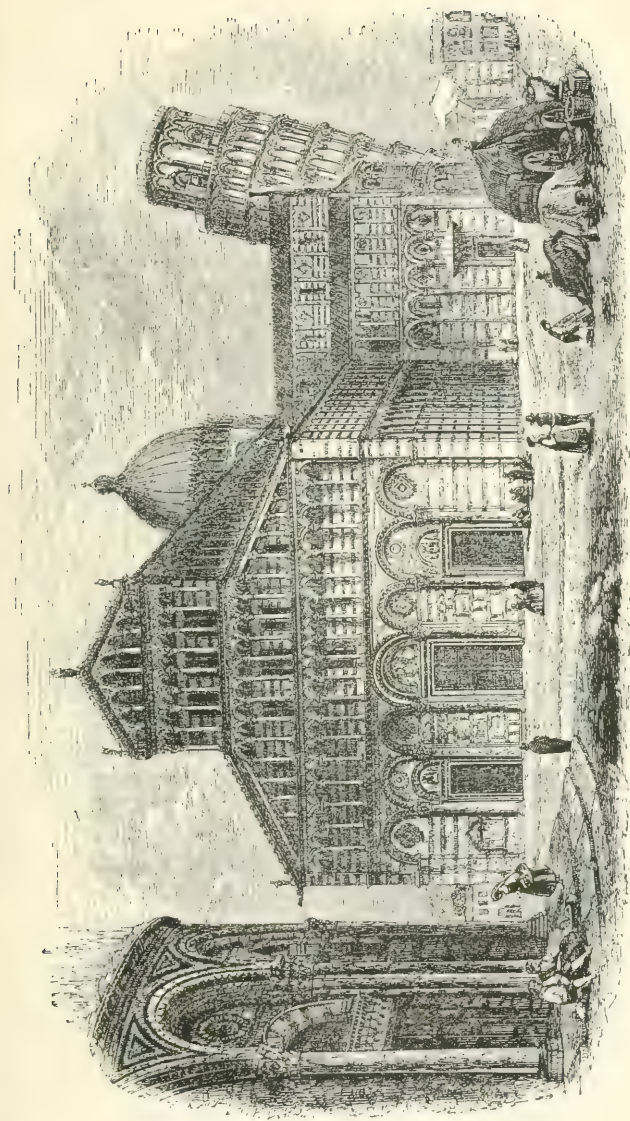


PLATE XXXVI.—Cathedral at Pisa. From Chapuy.

Sometimes these blocks supported small arches (Fig. 121). These features were called tablets or *corbel tables*.

In early Christian times the basilicas had depended upon the columns plundered or copied from

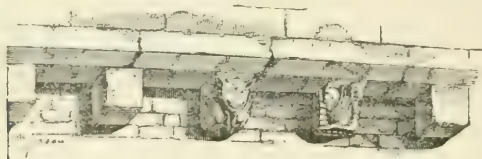


FIG. 120.—Corbel table, Iffley, Oxfordshire.

old Roman temples to sustain the light brick masonry composing them; but the heavy stone walls and vaults of Romanesque buildings required stronger support, and hence were evolved the piers and short squat columns generally characteristic of the style (Plate XXXVIII, Fig. c). Of these, some were square, some octagonal, and some round, the shafts



FIG. 121.—Corbel table, Iffley, Oxfordshire.

being ornamented in England by flutings or zigzags, as in the crypt of Canterbury, Waltham Abbey, and Lindisfarne; but after a time the shape of the pier or column became subservient to that of the arches and ribs of the vault above, and square piers

with rectangular projections, pilasters, or engaged columns were used (Plate XXXVIII, Fig. *f*). These were employed with such profusion that only a step was required to pass to the clustered columns of later Gothic cathedrals (Plate XXXVIII, Fig. *g*) and the petrified forestry of Rheims, Aimeins, Chartres, or Westminster.

Most abbey churches boasted crypts or underground chambers, heavily vaulted with massive masonry to sustain the floor above, and employed, as a rule, for purposes of interment. Richard, Prior of Hexham, however, invariably speaks of Anglo-Saxon crypts as "chapels and oratories subterraneous," from which it is evident that in England they were used as sanctuaries. Canterbury cathedral contains the finest example, to which may be added the crypt of St.-Eutrope, at Saintes, in France.

It only remains to mention capitals and bases to complete the main characteristics of a Romanesque church, for windows were generally small reproductions of the doors.

Primarily, the capitals imitated those of the Romans in a debased way, but later acquired a new interest by becoming constructively useful, for the inner moulding of the arch now sprang from the *edge* of the capital (Plate XXXVIII, Fig. *e*), instead of being on a line with the shaft, as in classic work, thereby converting it into a specie of corbel or bracket.

During the twelfth century the capitals were carved with astonishing diversity and barbaric splendour, being garlanded with religious reliefs, symbolic and fantastic animals, geometrical patterns, flutings, chevrons, and vegetable forms of such curious dis-

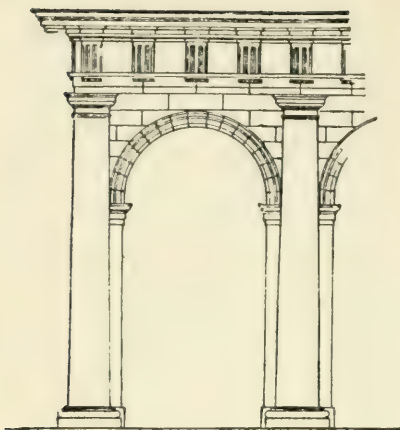


Fig. *b*.—Roman arch and false lintel.

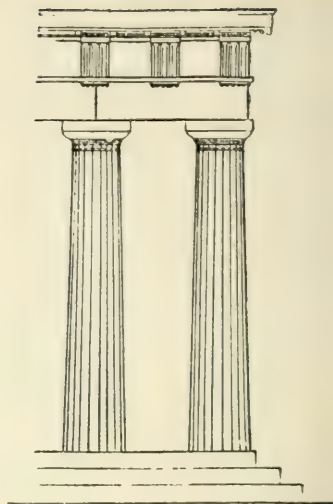


Fig. *a*.—Greek lintel.

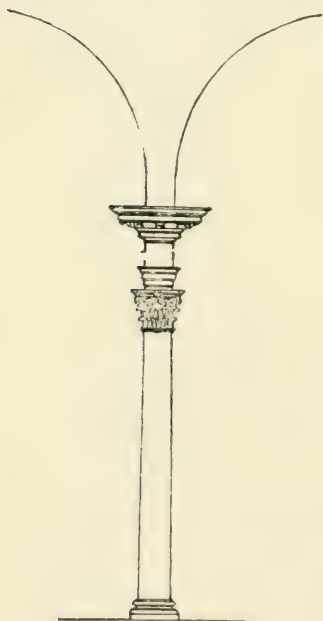


Fig. *c*.—Vault springing from entablature.

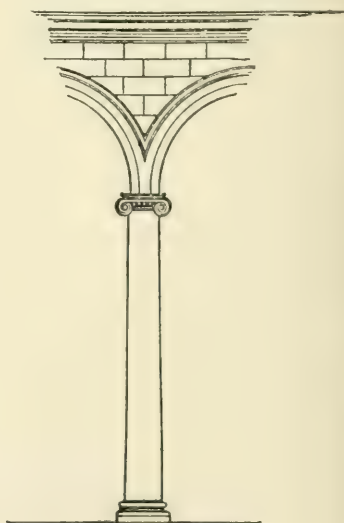


Fig. *d*.—Arch springing from column.

PLATE XXXVII.—Comparative series showing Greek and Roman methods of support. From Tuckerman.

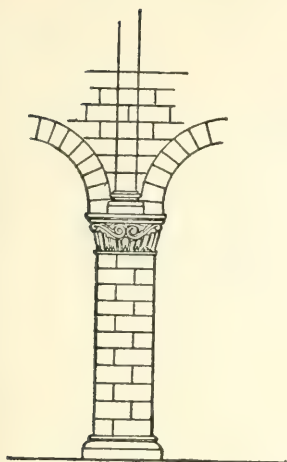


Fig. e.—Romanesque column with arches springing from outer edge of the capital.

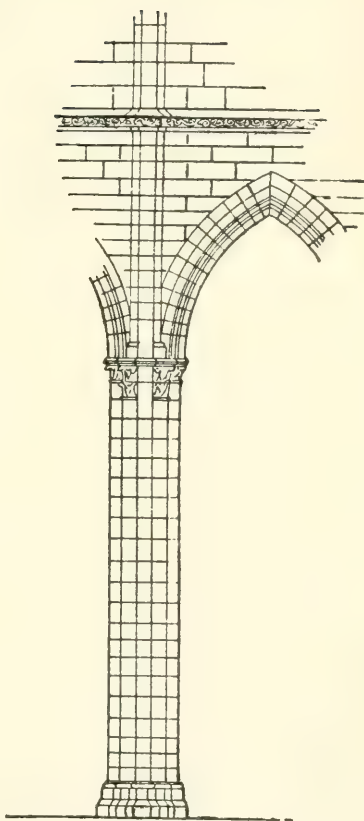


Fig. g.—Gothic pier of clustered columns.

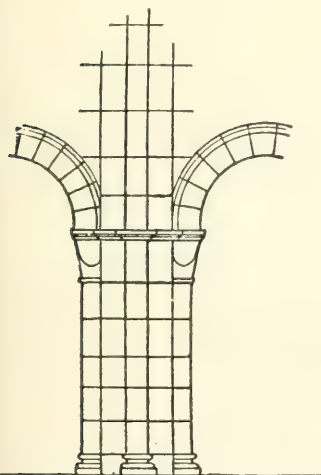


Fig. f.—Romanesque pier.

PLATE XXXVIII.—Comparative series showing Romanesque and Gothic methods of support. From Tuckerman.

tion and bizarre variety that they have become an archæological study in themselves. The bases, like the capitals, first imitated the Roman forms (Plates XXXVII and XXXVIII), but were later so elaborated that they finally became merely inverted capitals. An angle ornament was further introduced to protect the corners of the plinth, which, being of delicate fictile form, soon took rank as a characteristic feature, but the early forms are the more serviceable and successful.

From the latter part of the eleventh century Romanesque architecture gradually divided itself into two schools. In one, the large smooth wall spaces proved too great a temptation to the fervid imagination of the monks, and the abundant pecuniary means at their disposal increased the allurements to elaborate all parts with redundant and often meretricious carving.

In the other school, a sturdy resistance and distaste toward superfluous ornamentation was manifest through all its designs; but the true breach between the two was not universally recognised until the great controversy between St. Bernard, of Clairvaux, and Suger, Abbot of St.-Denis, in 1125.

"What profiteth it," asks the great scholastic of Clairvaux, "to place these foolish monstrosities, these astounding deformities, before the eyes of the brethren? What do they here, these unclean apes, centaurs, and befouled tigers? Here ye may see a number of heads having but one body, there a number of bodies having but one head; a quadruped with serpent's tail e'en beside a serpent wearing the head of a beast; hybrid cattle also, and monstrous crea-

tures, horse in front and dog behind. Indeed, strange forms encompass on every hand, distracting the brethren from their breviaries. Great God! if ye feel no shame for such unprofitableness, have ye no regret for the criminal wastefulness thereof?"

The good monk next attacks the silver splendour of the holy vessels, condemns the length and loftiness of the auditorium, the futile amplitude of the naves, and the polished marbles and paintings which distract the wandering gaze, and finally ends his discourse with: "O vanity of vanities! O ye more foolish than vain! Within, your church blazes [with costliness], but she is barren of devotees; yea, she covereth herself with fine gold, yet leaveth her children to go naked."

Suger, on the other hand, sums up the contradictory in a few liberal-minded words, saying: "On this point let every man believe what his conscience tells him to be right; as for me, I glory in the fact that the more valuable a thing is, the more should it be consecrated to God."

From the moral point of view one is inclined to agree with Suger, for certainly the house of the Deity should surpass all others; but from the artistic standpoint, St. Bernard unconsciously touched the keynote of truth, for surely simple elegance is more admirable than exuberance, and in decorative art the temptation to expand is ever greater than the love of self-restraint.

In Notre Dame de Poitiers (Plate XXXV), St. Gilles, in Languedoc (Fig. 119), and the Cathedral of Angoulême, previously cited, we see the best results of the ornamental school; but for the beauties

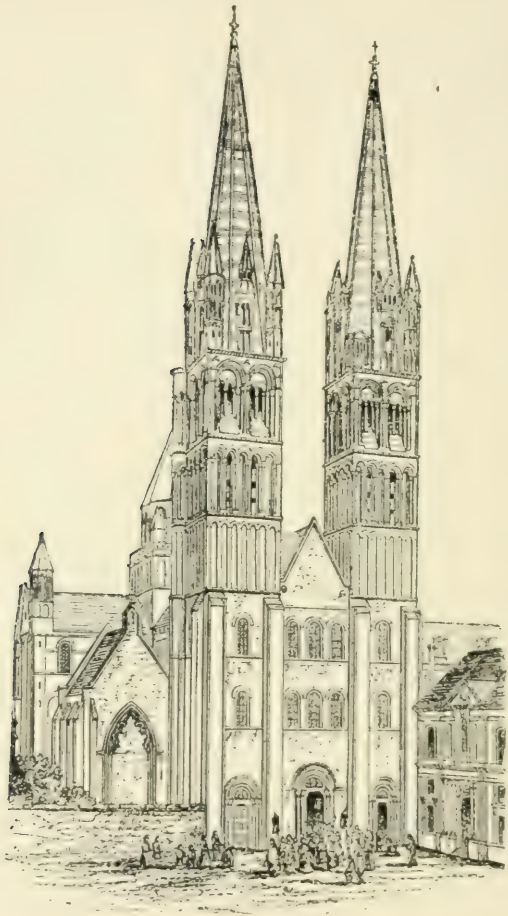


FIG. 122.—St.-Étienne at Caen.

of stern simplicity one is compelled to turn to Normandy.

Whether this simplicity was due directly to St.

Bernard is of course open to question; but as no Norman building is known to have existed before the year 1050, and the scholastic began his polemic *versus* pomp and pageantry in 1125, it is reasonable to believe that his words indirectly influenced artistic opinion in the completion of churches north of the Loire.

The city of Caen is more strictly the centre of Norman architecture than Rouen, for in the stately churches of St.-Étienne (Fig. 122), Ste.-Trinité (Fig. 123), and St. Nicolas one sees the prototypes and models of all the best Norman work, whether in Normandy or in England. To these may be added as formative factors certain portions of the Cathedral of Bayeux, the ruins of Jumiegès, and the older buildings of Mont St.-Michel; but the direct inspirations of most Norman architects seem to have been assimilated at Caen; and in the west front of St.-Étienne one may even descry the true forerunner of the later Gothic façades.

St.-Étienne (Fig. 122) was founded by William the Conqueror (*circa* 1064) in expiation for his marriage with Matilda, daughter of the Count of Flanders, she having been previously divorced without the Church's sanction. It was begun in 1066 by the celebrated Lanfranc, afterward Archbishop of Canterbury, is clear, sober, and logical in treatment, and has all the bold simplicity, sturdy vigour, and beauty of proportion typical of the Norman style.

In central and southern France the principal tower of a church was usually placed at the intersection of the nave and the transept, forming thus a central climax, as in St.-Sernin, at Toulouse (Fig. 124). But

in St.-Étienne and other abbey churches of Normandy, though the central tower was retained, the main towers flanked the *western façade*, thereby afford-

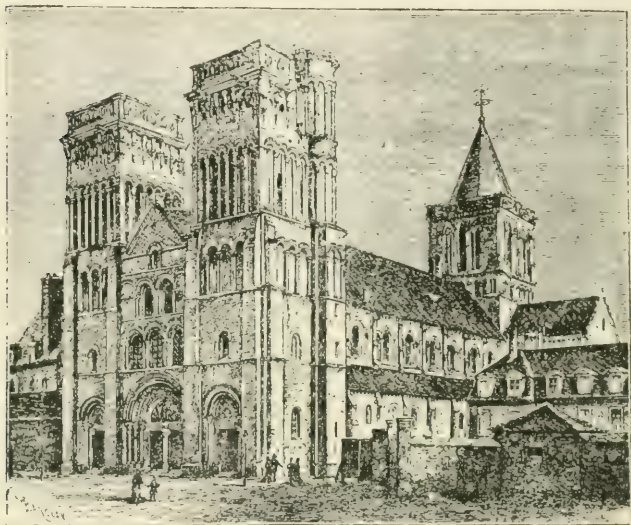


FIG. 123.—Ste.-Trinité at Caen.

ing great convenience to refugees, who, having sought an asylum in the sanctuary, were enabled to anoint the heads of their enemies with boiling oil or molten lead whenever they endeavoured to force an entrance. The same reason has also been advanced to account for the placing of a tower *over* a doorway, an arrangement occasionally seen in the smaller parochial churches.

From this military employment, ecclesiastical towers often assumed the appearance of donjon-keeps, finely wrought, but simple, solid, and serious

in construction (Fig. 123). To these sturdy sentinels of stone may be attributed a large share of that majesty and masculinity which we mainly admire in Norman work.

In the treatment of their interiors the Normans rather overdid the matter of caution; massiveness narrowly escaped clumsiness, and it was long ere the vault entirely superseded the wooden roof. When, however, this was effected the result was happy in

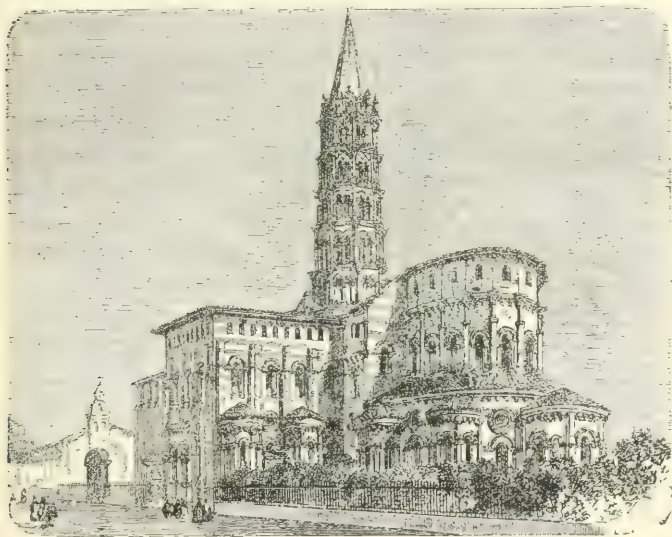


FIG. 124.—St. Sernin at Toulouse.

the extreme, and Norman churches excelled their contemporaries in many minor respects. Among these may be mentioned the interior mural decorations, which, wrought in fresco and distemper,

glowed with a subdued Giorgione richness that far surpassed the hot, violent reds used in many buildings of the south.

England received her Romanesque style from France even before the Conquest, and under the reign of Edward the Confessor. For, from a manuscript left by "Edmer, the Singer," describing Canterbury Cathedral before it was rebuilt by Lanfranc in 1070, it must have been as frankly Norman as are the older portions of Norwich, Rochester, and Winchester, which latter are so consistently Continental as not to warrant description.

Before the introduction of Norman architecture, England had her Saxon style, and one hundred and twenty buildings may be cited containing a door, window, or fragment of wall bearing the stamp of Saxon individuality; but no complete example dating from before the conquest exists to-day, and whatever did exist at that period appears to have been an art of arrested movement, with no appreciable influence upon the new Norman innovation. Even the Tower of Earls Barton (Fig. 125), the most complete Saxon specimen extant, can only commend itself as a debased form of Roman construction prefiguring nothing, and quite impotent to affect the finished style imported by the Conqueror.

But in Durham Cathedral we have an exception and a building more essentially English than anything erected either in the eleventh, twelfth, or thirteenth centuries, a worthy last resting place for St. Cuthbert and the Venerable Bede.

Bold, massive, and imposing, it dominates the ample surrounding country with a majesty and rude

grandeur not to be found even in Normandy, and its design and distribution show a hardy emancipation from Continental influences.

Had England shown the same independence in the nave of York Minster and other portions of cathedrals built prior to the introduction of the Gothic,

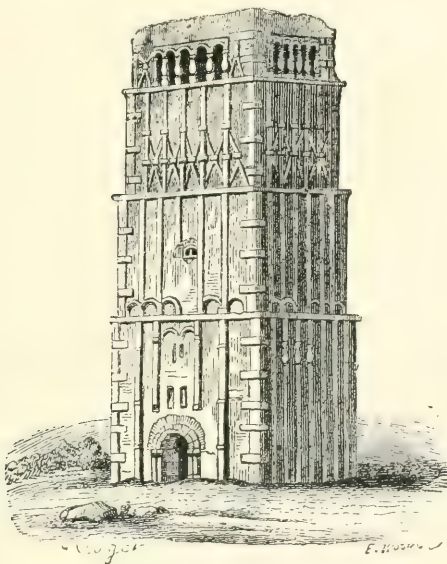


FIG. 125.—Tower of Earls Barton.

she might have developed an original Romanesque style of which the whole world would have been proud to-day.

Meanwhile the Romanesque had been spreading rapidly over the rest of Europe. Scandinavia, irresolute and thoughtful, had suddenly roused herself, imported French artists, and reared cathedrals at Lund,

Roeskild, and Linkaeping. Belgium, refined and fanciful, had followed the fashion at Tongres and Tournay; Spain, sombre and serious, had reproduced St.-Sernin at Santiago and covered Leon, Salamanca and Segovia with the new melodies of line and harmonies of form; while even Jerusalem had remodelled the Church of St. Sepulchre according to Romanesque regulation, and in so doing sealed the approval of all Syria and the East.

But of all countries subjected to Romanesque influence, that portion of Germany bordering the Rhine alone maintained a position in art equal to that of France.

In plan and disposition, the churches of the Rhenish school differed from most others in that they frequently contained two choirs, two apses, and two transepts, arranged symmetrically at either end, thereby permitting lateral façades only. High bell-fries shot sheer into the air, either at the two extremities or at the intersections of the nave and transepts, or both; and though the vaulting was treated in the most approved groined fashion, it was not considered incompatible with the use of cleverly constructed cupolas as well.

The Cathedrals of Worms (Fig. 126) and Spire are usually cited as the masterpieces of the school, both striking in their grandeur, solidity, and amplitude; but so conventionally correct are they as regards adherence to French method and detail that they hardly require individual description.

It only remains to mention Italy, whose Romanesque architecture was mostly confined to the northern provinces and to Sicily.

That of the north was little more than a superior sort of Lombard, with less of the wild and monstrous

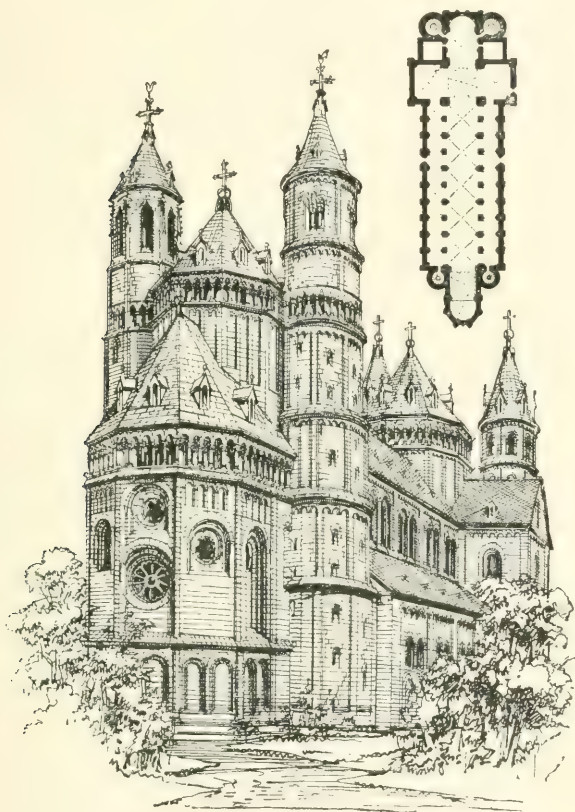


FIG. 126.—Cathedral at Worms.

imagery peculiar to the style. The best examples are to be found at Pisa (Plate XXXVI), Florence (Fig. 152), and Montefiascone.

That of the south or Sicily was a singular combination, consisting of Norman details engrafted on the Eastern style which the Saracens had introduced into the island, and is best exemplified in Palermo, Messina, and Monreale.

During the thirteenth century the Romanesque melted into the Gothic, having accomplished its purpose. Its main features had been an elaboration of the apse; the substitution of piers and arches for columns and entablatures; the final doing away of wooden roofs; and, greatest of all, the groined vault.

We have seen the *cella* or oblong room of the Greeks, girt by a Doric peristyle, whose columns had been prefigured in the tomb of Beni-Hassan in Egypt. The Romans adopted this form of building, adding a semicircular recess to the rear; and, having transposed the columns from the outside to the inside and added a small transept, the building became a basilica. By extending nave and transept, the plan became cruciform and suitable for a Christian church, and the wooden roof being replaced by a stone vault through the ingenuity of the Romanesque architects, a logical working basis was at hand, capable of infinite adaptation.

How western Europe handled the problem, and how from a stolid, serious, and matter-of-fact style was constructed the most exquisitely imaginative and beautiful architecture since the time of the Greeks, will be discussed in the succeeding chapter.

CHAPTER XII: THE GOTHIC STYLE— ECCLESIASTICAL.

FRANCE.

IT is customary to begin all treatises on Gothic architecture with an apology for the name, Gothic being a term contemptuously applied by the Italian architects of the Renaissance to what they were pleased to consider a barbarous effort; and truly no appellation can be less appropriate, seeing that the Goths had nothing whatever to do with the style.

The French have essayed to remedy the evil by calling Gothic architecture "*le style ogival*," from *augere*, to strengthen, *ogives* being the cross-springers of a vault.* But the fact that such cross-springers were used by the Romanesque architects before Gothic architecture existed weakens the felicity of the phrase.

Hardly less happy has been the attempt of the English to introduce the title of "pointed architecture," for pointed arches may also be met quite frequently in Romanesque buildings, while few are to be found in the last or Flamboyant period of France.

* Of late years the word *ogive* has acquired the additional meaning of *pointed arch* (*arc-brisé*), a fact which has often created much misunderstanding.

But when all is said, the name is absolutely unimportant, for the style is too inherently beautiful to be either harmed or enhanced by a name, and so we will continue to use the conservative term of Gothic, as being the more familiar and universal.

During the latter part of the twelfth century French art had been gradually leaving the cloister, to pass into the hands of the laity. The fact that royalty was arrayed against the more powerful nobles and higher clergy encouraged the *bourgeoisie* to form itself into corporations, companies, and guilds of artisans, each so persistently pursuing its peculiar handicraft, that finally *all* buildings, whether cathedrals, convents, or palaces, were erected by one or other of these trades unions.

These were no bunglers in their work, no criminals of creation. In those days every trade was still an art, and every art a source of inspiration.

Besides, for some time the Abbeys of Cluny had thrown open their doors to all worthy lay scholars of the architectural craft, and thousands of ambitious youths sat at the feet of monastic Gamaliels until many were as efficiently equipped as the meritorious monks themselves. Friction with the outside world insured a wider experience, the centralization of power guaranteed royal protection, and with the entire immunity from feudal interference the pupil soon outstripped the pedagogue and soared sheer into the higher solitudes of genius and success.

But not alone was the *personnel* altered, the purpose of architecture was also changed.

While the Romanesque style had been mainly confined to abbey churches and the supplementary build-

ings of monasteries, the Gothic devoted itself to palaces, courthouses, and especially cathedrals, for the cathedral held a unique position in the community, not only as the house of God, but as a rendez-vous of the people and social life.

Here the king assembled his barons and people to consult on grave questions affecting the state; here agrarian affairs were discussed, municipal matters debated, and war declared.

It was in the Cathedral of St. Mark that the deputies of Europe convened to demand a fleet for the Crusades, while in Notre Dame assembled the first great meeting of the States-General in 1302.

The cathedral represented rebellion against feudal power, the union of ecclesiastical and monarchical strength against monastic and feudal force—in a word, king and Church *versus* abbots and barons. This alone would have been sufficient to encourage cathedral construction. But meantime Touraine, Anjou, Artois, Normandy, Vermandois, Maine, and Poitou had been added to the royal domain, each a centre of wealth, each a centre of activity. All this wealth, all this activity, must needs have an outlet, and religion was the dominant note which rang through the Middle Ages. What more natural, therefore, than that these forces should crystallize into cathedral form? That they did so is proved in the sequel.

During the reign of Philippe Auguste scores of cathedrals were begun, including Notre Dame at Chartres, Notre Dame at Paris, the cathedrals of Amiens, Rouen, Bourges, Leon, Noyon, Meux, Soissons, Tours, Cambrai, Arras, Coutances, Seez, and

Bayeux; while Châlons and Rheims rose in Champagne, and Burgundy followed suit in the Cathedral of Auxerre.

As city after city flowered and bloomed again with petrified leafage, religious and popular enthusiasm increased.

St. Thomas Aquinas, St. Francis of Assisi, St. Dominic, Gerson, and Pope Innocent III fostered the first; political freedom inspired the second. So great indeed was the popular enthusiasm that during the building of Chartres masons came flocking in all directions from upper and lower Normandy offering their services for nothing (save board); and men, women, and children worked night and day to perfect the great work. Even foreign countries caught the infection, and many splendid gifts were sent by the King of England, the King of Denmark, and noblemen of high degree.

In a letter written to England the Abbot Hanno delivers himself as follows: "I much marvel to behold men of high estate (proud of birth, proud of wealth, and used to living in voluptuous delight) harnessed to a cart and carrying stone, lime, timber—aye, and all necessities for the building of an holy edifice. Oftentime a thousand persons, both men and women, are yoked to one and the same cart, so mighty is the draught; yet quiet reigns on every hand, and never a murmur ariseth." Later he naïvely describes how for a punishment a man is "unharnessed and driven out from before the face of the 'holye companye.'"

The most salient feature of the new French style was the *pointed arch* (Fig. 127). It was not an invention of the time, for pointed arches had been em-

ployed in the Mosque of Amrou at old Cairo in the seventh century, in the aqueducts of Justinian, in the church built by Constantine over the tomb of our Saviour, and in the pyramids of Meröe.

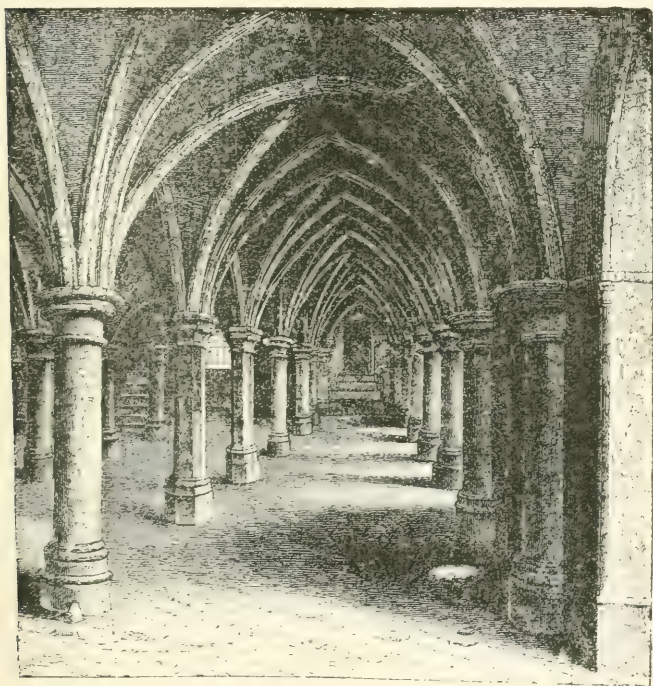


FIG. 127.—Crypt showing pointed arches.

But it is equally true that the Gothic architects did not copy this feature from any other style.

With them the pointed arch was merely the result of mathematical law, for the nave being usually wider than the distance between the piers, resulted

in the fact that if the diagonal ribs of the vault continued semicircular, the lateral intersections of the vault necessarily *produced* pointed arches (Fig. 128).

"La construction commande la forme," says Viollet-Leduc, and in no instance is this axiom more clearly exemplified.

So much for *origin* of the pointed arch in French Gothic. Its universal employment and its new method of constructive treatment arose from quite other causes.

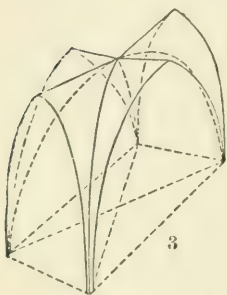


FIG. 128.

During the latter half of the twelfth century the great problem of the period was how to cover vaster spaces, for now that a cathedral had become a sort of consecrated forum, a place for politics as well as prayer, space came first in the catalogue of necessity.

The abbey churches, though majestic, were much too small for the purpose, nor did their stern, sombre aspect seem any longer *en rapport* with the ideas of the time. Bigger vaults, higher ceilings, more light; these became the primary *desiderata*, the postulates on which to found the future of the style.

But as the space to be spanned became larger and the ceiling higher, it was discovered that the side thrust of a Romanesque semicircular arch was much too great when placed at a dizzy height, and merely resting on a thin wall and isolated piers, unless secured by enormous abutments.

Hence the pointed arch was employed, whose

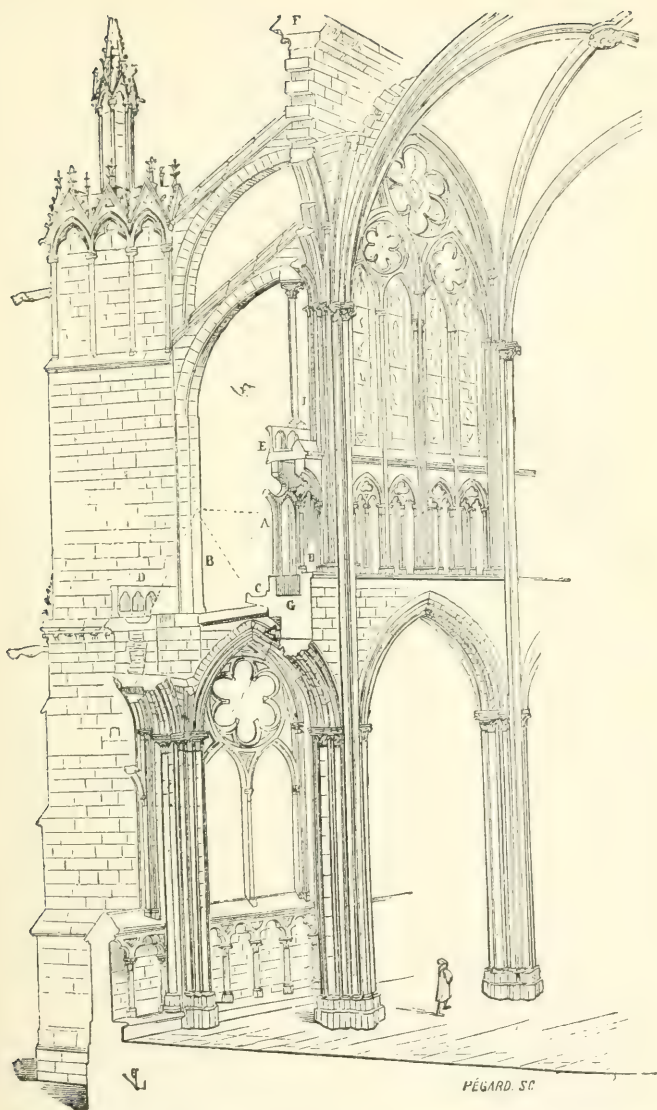


PLATE XXXIX.—Section showing construction in the Church of St.-Denis.

thrust was exerted more toward the perpendicular, requiring only the slim elastic flying buttress as a prop, and, by its very shape, affording greater height than the round arch, even when springing from the same level.

As regards the desire for light the solution of the one problem solved also the other, for the fact that



FIG. 129.—Buttress in the cathedral of Chartres.

the buttresses and piers did the work took away all necessity for side walls save as curtains or screens; so that with the aid of a discharging arch the whole space between the buttresses could be converted into window, if needed, as may be seen in the Church of St.-Denis (Plate XXXIX).

Theoretically the thrust of a vault was conveyed directly to a single point, but practically it was transmitted to *two* points, above and below the theoretical one. Wherefore *two* flying buttresses were employed, one above the other. These were sometimes connected by radial columns, as in Chartres (Fig. 129), or by small arcades, as in Amiens (Fig. 130), to stiffen the whole.

Flying buttresses performed the further duty of ducts to carry off the water from the roof, which was discharged from the mouths of gargoyles.

Thus, briefly recapitulating, all the beautiful

things of early Gothic had their duties to perform: the graceful groin to carry the roof; the pointed arch to gain the height; the flying buttress to prop the latter, carry the water, and aid, but not infringe upon the light; its tracery of radial columns or small arcades inserted to stiffen, yet not destroy its resilient elasticity; and, finally, the pinnacle placed on every buttress to act not only as an ornament, but as a weight, to increase the power of resistance in that buttress.

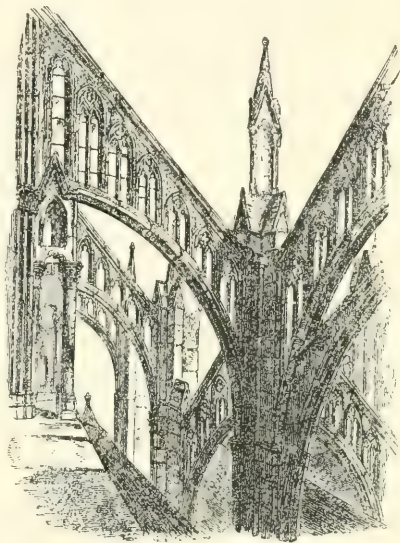


FIG. 130.—Flying buttresses at Amiens Cathedral.

THE STYLES.

All Gothic architecture may be divided into three principal periods, a useful classification by which to determine the approximate date of its buildings at a glance.

In France these periods are catalogued as follows: First, *Early French* or *Lancet period*, covering the latter half of the twelfth and whole of the thirteenth centuries (*circa* 1150–1300): second, the *Rayonnant*, prevailing throughout the fourteenth century (*circa* 1300–1400); and third, the *Flamboyant*, which,

commencing with the dawn of the fifteenth century, reached into the early part of the sixteenth (*circa* 1400-1515).

Like the Romanesque, the Gothic had her schools—in Picardy, Guienne, Anjou, Champagne, and, above all, in Normandy (whence England received her early pointed style)—but the distinctions between them were mainly geographical, and the above chronological classification holds generally good for all.

The Early French Period (1150-1300).

Early French Gothic did not leap alone into existence as a new thing. Primarily, it was merely a pointed form of Romanesque, purged of meretricious ornament and treated with the new forms of stable equilibrium.

This period of transition extended over the whole of the last half of the twelfth century, and to it belong the churches of St.-Germain des Prés and St.-Remy at Rheims.

But with the beginning of the thirteenth century arose the most brilliant architectural era that the world has seen since the days of Pericles and the Parthenon.

Design was studied seriously, reverently, like an act of religious worship. Simplicity, elegance, and judicious selection characterized the most trivial detail. Nature supplied the forms in the flowers by the wayside; *truth* was the dominant chord of all. Not Saracenic truth with tedious treacheries of stucco, but legitimate, stable truth—truth of material, truth of colour, truth of construction. Material that rang

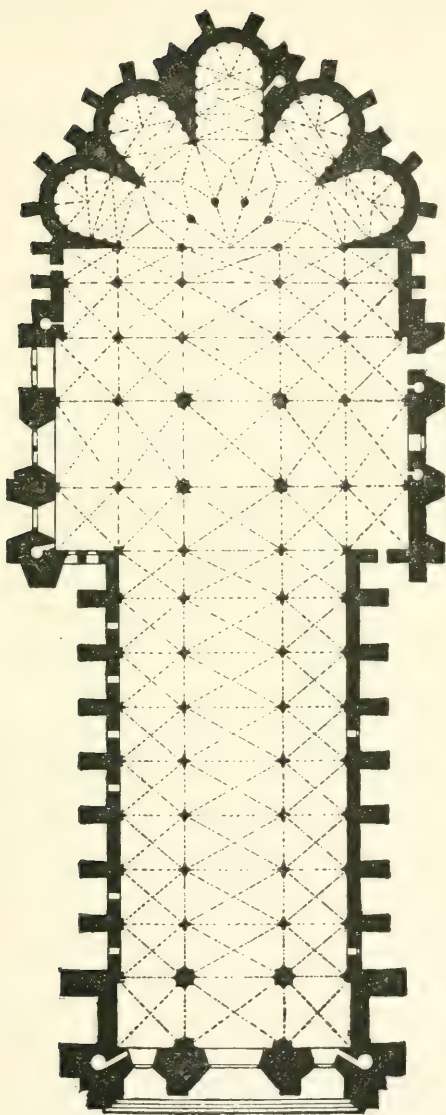


PLATE XL.—Plan of Rheims Cathedral.

under the hammer, colour caught from Oriental fabrics in the markets of Limoges, and construction delicate and precise in adjustment, immutable as a natural law. The plans of the churches were much the same as in earlier days, save that the choir and apse assumed a greater importance.

The side aisles were prolonged and carried round the rear, forming an ambulatory (Plate XL), through which wound white-haired cardinals clothed in misty scarlet, golden-mitred prelates shod with purple velvet, acolytes with censers and embroidered bannerets, and "scores of chanting choristers with music in their throats." These filed past numerous dim



FIG. 131.—Lancet windows.

chapels set in radial order, the middle one of which was devoted to Our Lady, and hence termed the Lady Chapel (Plate XL). Additional aisles were frequently added to either flank of the choir, as at Rheims (Plate XL), but in the latter part of the century all the aisles were doubled, even those

adjacent to the nave, while the spaces between the buttresses were converted into chapels.

Pointed arches reigned throughout, striped with mouldings, and all round arches may be attributed to accident or exception. This characteristic not only swept over France, but over England, Germany, Spain, Syria, Sweden, Italy, Greece, and the civilized world, producing fairy forms at Strasburg, Cologne, Florence, Salisbury, and Burgos.

Windows (Fig. 131) were lancet-shaped (from which the style takes its name), and framed by a few mouldings clearly defined. Some were set single, some double, with a rose, in which case a larger pointed arch often surrounded the three (Fig. 132). Huge rose windows, or bull's-eyes, threaded in every direction with stone embroideries, were much employed, supplying many a model for the filmy fabrics of Flanders. One of these cobwebs of tracery still fills the northern gable of Notre Dame, at Paris (see Fig. 133), warmed into colours now lost to art.

One of the most striking features of a thirteenth-century cathedral was the west front—a thing full of melodies of line and harmonies of form.

In some of these façades three windows, symbolizing the Trinity, were inlaid, the central one being higher than the adjacent two, and often surmounted by a rose, as in Chartres (Fig. 134). In others the rose window itself filled the place of importance, as at Amiens and Notre Dame (Plate XLI). But in all the lower story was cloven by doorways (which have ever been held “the finest single features in Gothic art”), and flanked by the grandest towers the world has ever seen.

It only remains to mention the sculpture judiciously distributed over all, and which, composed of arcature and statuary, blended richness with restraint.

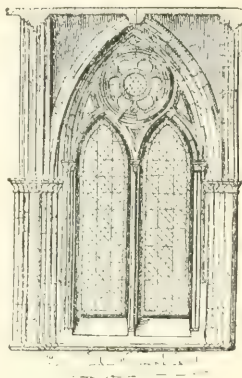


FIG. 132.—Window at Rheims Cathedral.

So much for externals.

Inside (Plate XLII), the thirteenth-century cathedrals preserved the same dignity and grandeur. Long perspectives of grizzled stone forestry stretched away remotely to the apse; and clustered columns

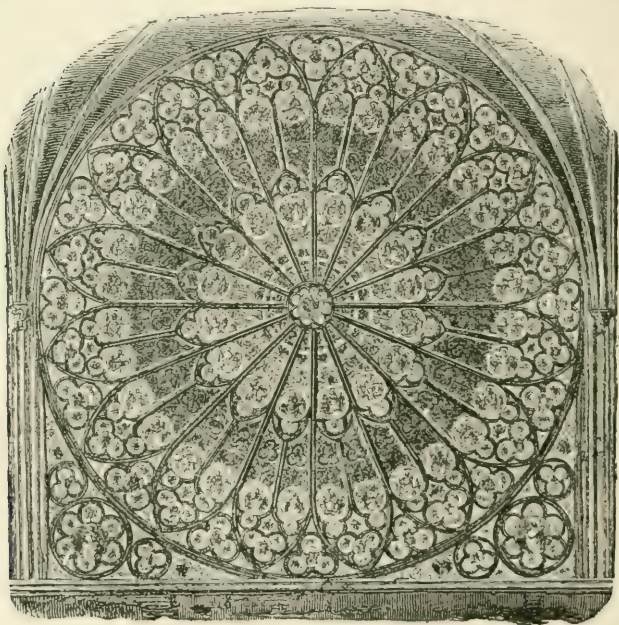


FIG. 133.—Rose window of the thirteenth century in the northern transept of Notre Dame, Paris.

carried the arches, some of whose shafts shot sheer into the air, then burst into slender stalks supporting the pointed vault.

A long arcaded gallery, with closely neighboured openings, filled the second story, each arch often con-

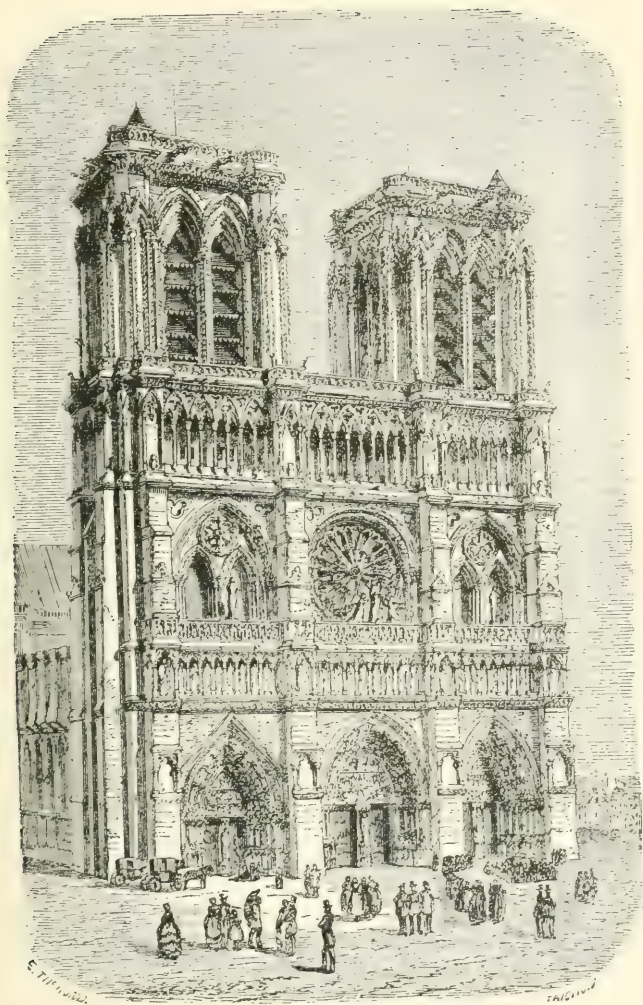


PLATE XLI.—Façade and towers of Notre Dame, Paris.

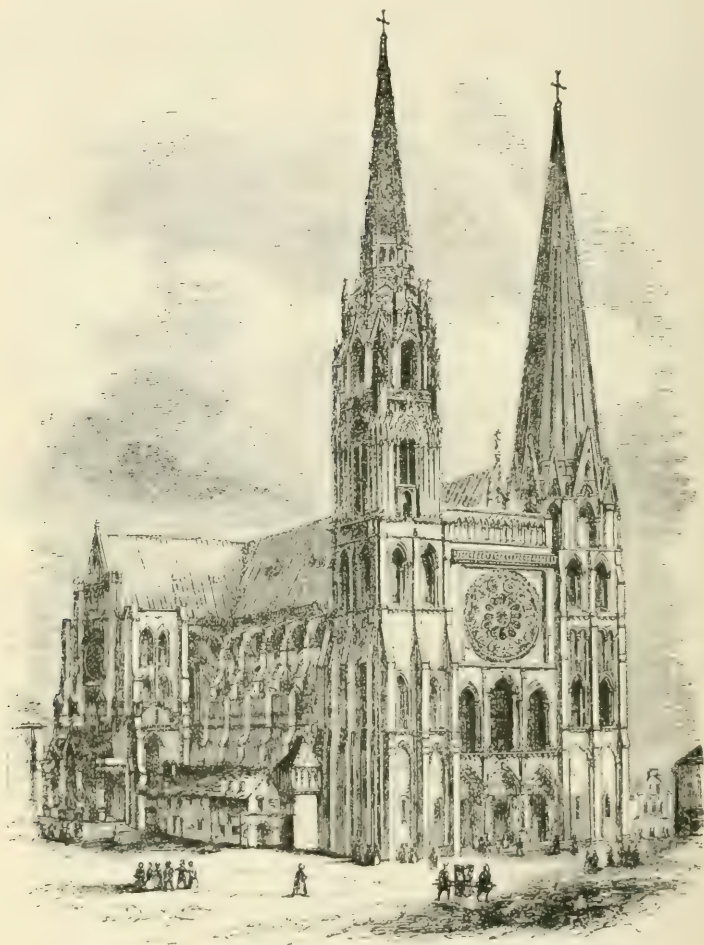


FIG. 134.—Cathedral of Chartres.

taining three apertures in its parenthesis, from which arose the name of *triforium*. Above this gallery or

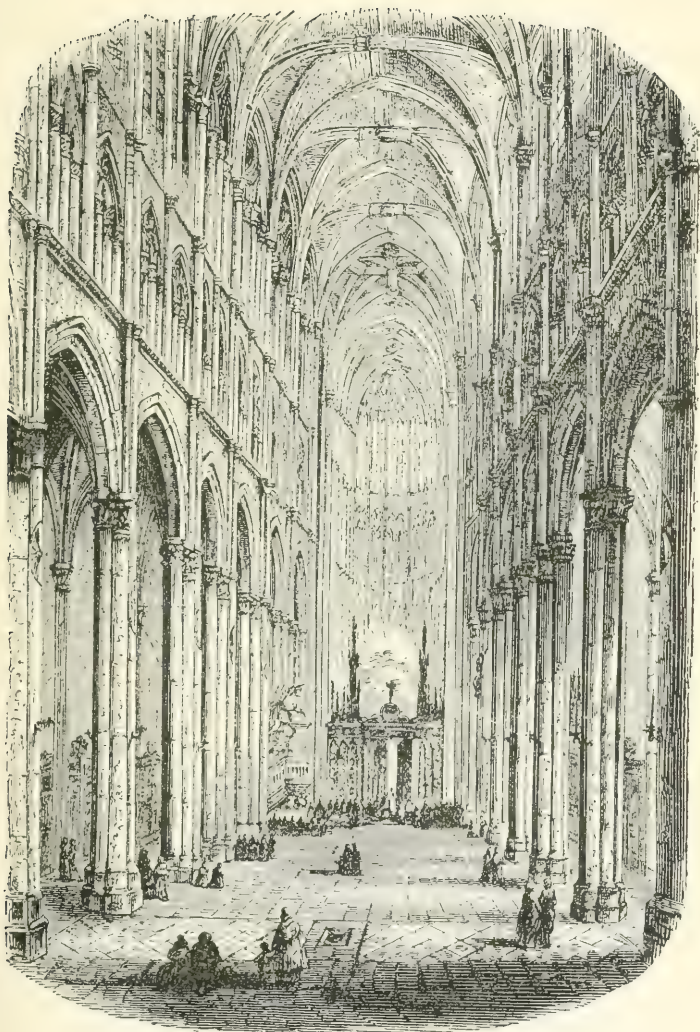


PLATE XLII.—Interior of Cathedral of Amiens.

triforium ran the clearstory, jewelled with stained glass such as the world has never since rivalled.

The capitals no longer bore eccentric allegorical subjects. Each bloomed with conventionalized foliage, resembling the flora of no region under heaven, but nevertheless of great decorative value. Finally, the walls were diapered with a wealth of curious colour, comprising black and silver, gold and vivid scarlet, Prussian blue and purple-lake.

The Second Period or "Rayonnant" (1300-1400).

The principal effort of the fourteenth century was directed toward a greater degree of elegance and lightness, which effort, pushed to its extremity in the next period, became a defect.

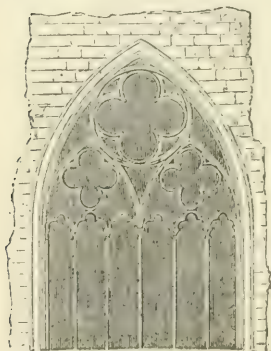


FIG. 135.—Window of the Rayonnant period.

As the strains and stresses of the vaulting became more developed and better understood, the constructive portions were reduced to exactly the sizes needed for stability; towers and spires shot higher into the air, and the sharp-pointed arches (characteristic of the lancet period) were modified to such comely proportions (Fig. 135)

as to lead certain archaeologists into granting the *Rayonnant* first place. But, as a whole, what was gained in elegance was lost in power—splendour neutralized poetical expression, and one misses the depth and earnestness, the serious solemnity of

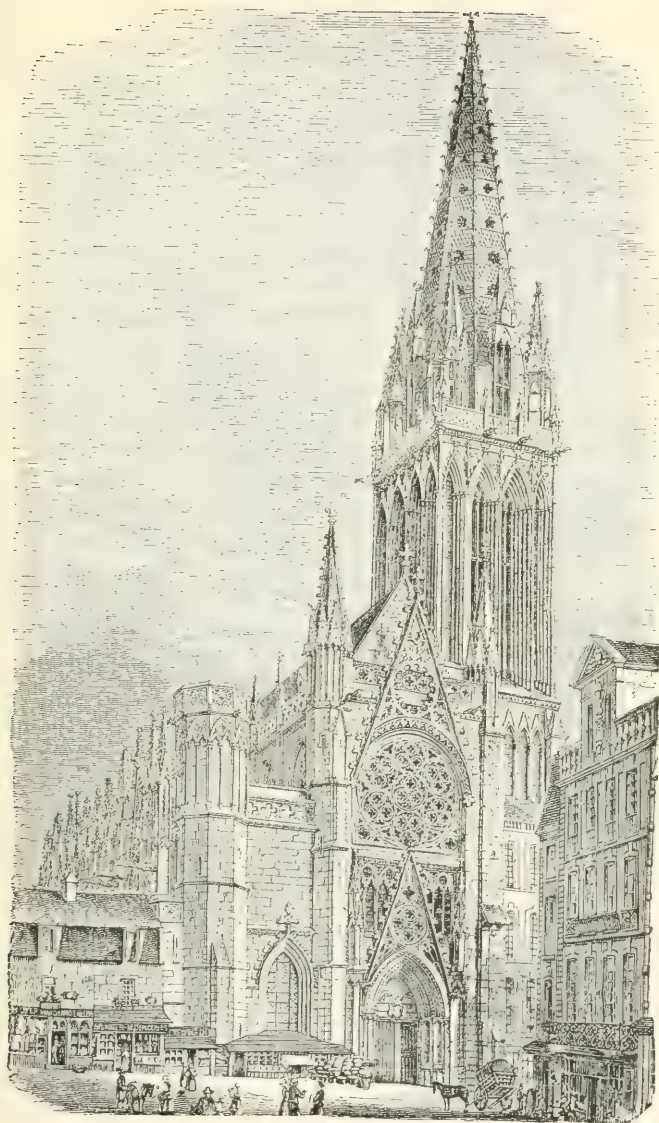


PLATE XLIII.—Church of St.-Pierre, at Caen.

Amiens, Chartres, Notre Dame, and other cathedrals of the thirteenth century.

Monuments of the second period are not very numerous, for the English wars and party strifes of the nobility had converted France into a theatre of bloodshed ill adapted to architectural production. Moreover, the power of the Church had come to be regarded with disquietude by the king and discontent by the people, and was no longer able to display itself in the construction of new buildings.

Nevertheless, good specimens are to be found in the additions to buildings already begun by the preceding century, in the Church of St.-Pierre, at Caen (Plate XLIII), and in St.-Ouen, at Rouen (Plate XLIV), com-



Trefoil.



Quatrefoil.



Cinquefoil.

FIG. 136.

menced and almost completed within the century, and in whose *chevet* we behold the grandest expression of climbing aspiration revealed in Gothic art.

The main characteristics by which one distinguishes the second period are as follows: Arches are less pointed, piers are more slender, windows are widened, and take the place of walls. Vertical lines become as narrow as possible, foliage is more realistic, mouldings are multiplied, and each set has its distinct shaft in the division of the pier. Above all, the heads of the doors and of the many mullioned windows are filled with tracery composed of trefoils, quatrefoils, cinquefoils, etc. (Figs. 135 and 136), of radial arrangement, from which the style obtains its

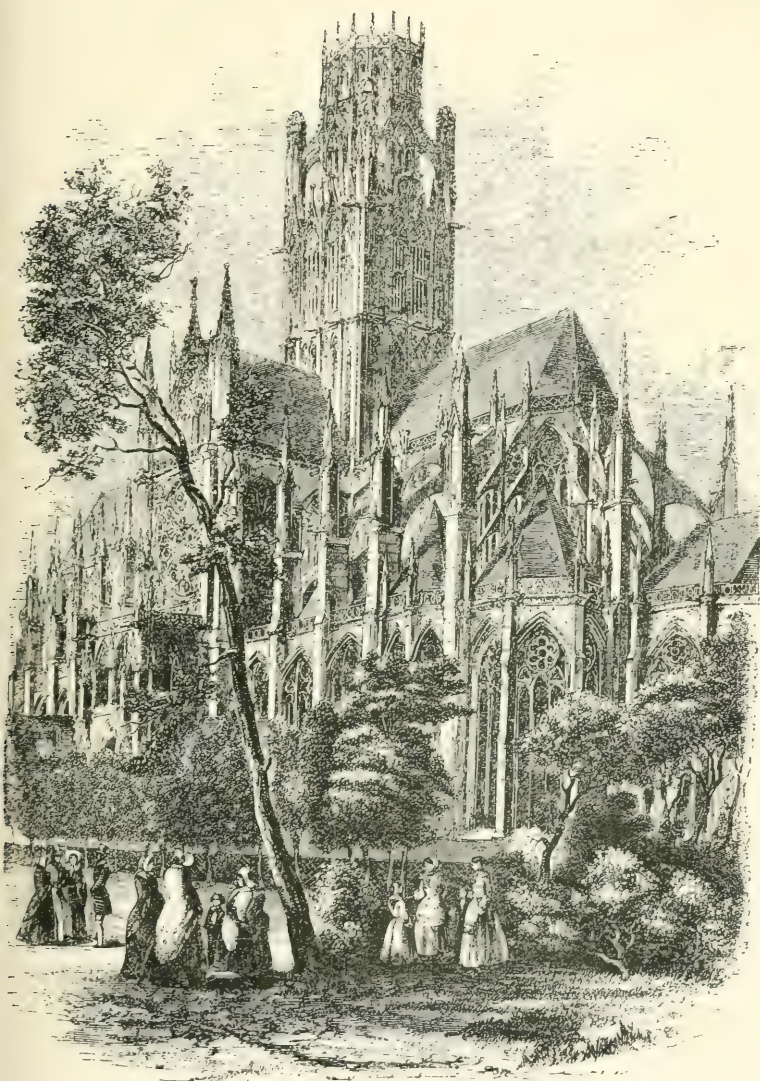


PLATE XLIV.—Church of St.-Ouen, at Rouen.

name of "*Le Rayonnant*." Inside, additional ribs are added to the vaulting, not so much for strength as for ornament, and bosses of carven foliage hide the points of intersection. But, when everything is said, the Rayonnant is really a transitional style, connecting the first and third periods of mediæval architecture.

The Third Period or Flamboyant.

With the Flamboyant began the era of carving, and ended the period of architecture and constructive beauty. Elegance pushed to extremity became extravagance, and the rage for richness resulted in decadence.

"Architecture had apparently said all that it had to say," and whatever impressions of pleasure we may derive from the taste of this period are sculptural, not architectural.

But though this sculpture may excite a certain admiration by its fanciful form or delicate filigree finish, it can never replace the constructive beauty and larger breadth of interpretation peculiar to the thirteenth century.



FIG. 137.—Flamboyant window tracery.

No more grand old giants of grizzled masonry towered pallid and still against the sky; all now was restless, nervous, excessive. Piers, buttresses, and other features, intended to offer an aspect of resistant force, were smothered in mouldings and capricious carving; meaningless mullions masked supporting walls, and window tracery assumed the flame-like form (Fig. 137) from which the style derives its name.

"A form which admits of no explanation or which is mere caprice can not be beautiful," says the master,* but the architects of the fifteenth century knew not this truth, and toward the end of the period all the bolder lines became fused in the heated imagination of these spend-thrifts in art, resulting in a meaningless mass, without character, without purpose, and with none of the exultant vigour of early days.

Meanwhile, carved foliage had been growing more and more realistic and less decorative in value, until after a time it was tortured into forms entirely inconsistent, with stone as a material. The leaves were crumpled, twisted, and undercut (Fig. 138), crockets often resembled cabbages, and capitals took on the shape of *dégagé* wreaths bound loosely around the attenuated piers.

Occasionally the arch mouldings were carried directly down the shafts, unbroken by any capital whatsoever, for the sake of greater apparent height ; but, as a rule, this arrangement was too simple for popularity.

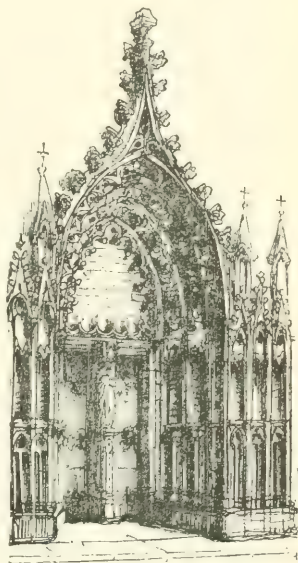


FIG. 138.—Flamboyant doorway.

* Viollet-Leduc.

Pointed arches (the special insignia of Gothic art) lost all their innocent *naïveté*, and became more and more obtuse, elliptical, or flat, crowned high with concave gables surcharged with ornament (Figs. 138 and 139). Finally, vaulting began to decline on account of the multiplication of ribs tasselled with long hanging keystones embroidered in fanciful forms.

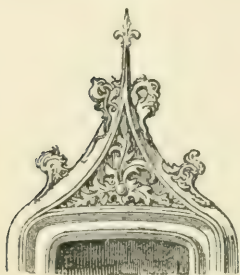


FIG. 139.—Flamboyant gable.

These pendent keystones, which tend to pull down rather than support, reached their extreme development in the *fan vaulting* of England, as shown in the chapel of Henry VII at Westminster (Fig. 140), but

though one may feel admiration for the daring and enrichment of this form of ceiling, one must also agree with M. Colomb, when he says: “Cette admiration est bien un peu mêlée d’inquiétude.”

Throughout the fifteenth century much attention was directed toward the fashioning and elaboration of rood-screens and choir inclosures, and these, being essentially sculpture, achieved genuine success.

The most beautiful examples are at Brou and in La Madeleine, at Troyes (Fig. 141). But what is appropriate for furniture is not necessarily architectural, and the exterior of the cathedral at Troyes (Fig. 142), which is a pure example of Flamboyant, suggests the cabinetmaker more than the architect.

Not but what the constructive features are all correct beneath their mask of elaboration, but the effort to lighten the general effect by over-refinement

of detail has resulted in an awkward heaviness of the masses. In this church we have a typical example of the period, with all the superficial excesses and irresponsibility of composition.

Finally, in a word, the Flamboyant was a style destitute of self-control; composed of cusped arches,

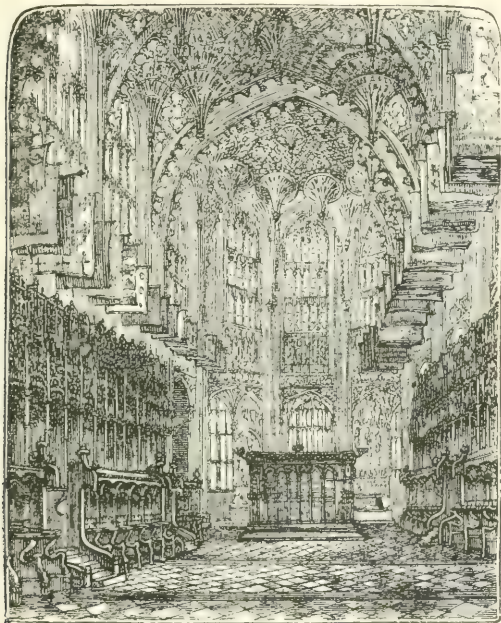


FIG. 140.—Chapel of Henry VII at Westminster.

canopied niches, diapered walls, traceried apertures, pinnacles, and embroidered buttresses; of sky lines fretted with finials, of gables crested with crockets, of strange animals chasing one another through tangled leafage, and of mouldings enriched with

beads, billets, chevrons, and ropes. All is anarchy and all confusion.

ENGLAND.

In the year 1174 Guillaume de Sens introduced Gothic architecture into England by winning the

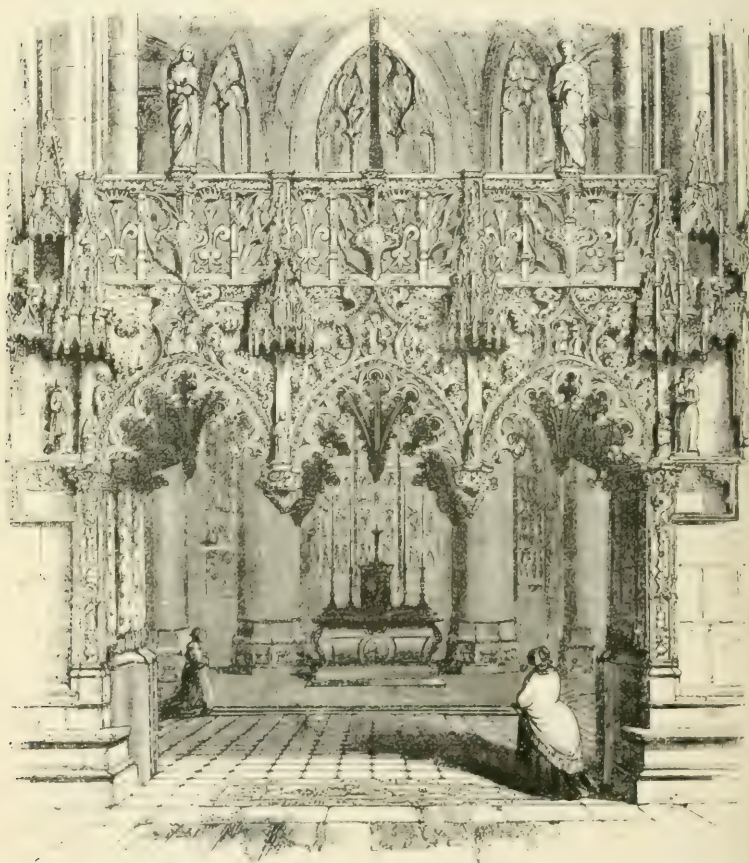


FIG. 141.—Rood-screen in the Church of La Madeleine at Troyes.

competition for rebuilding Canterbury Cathedral after the fire.

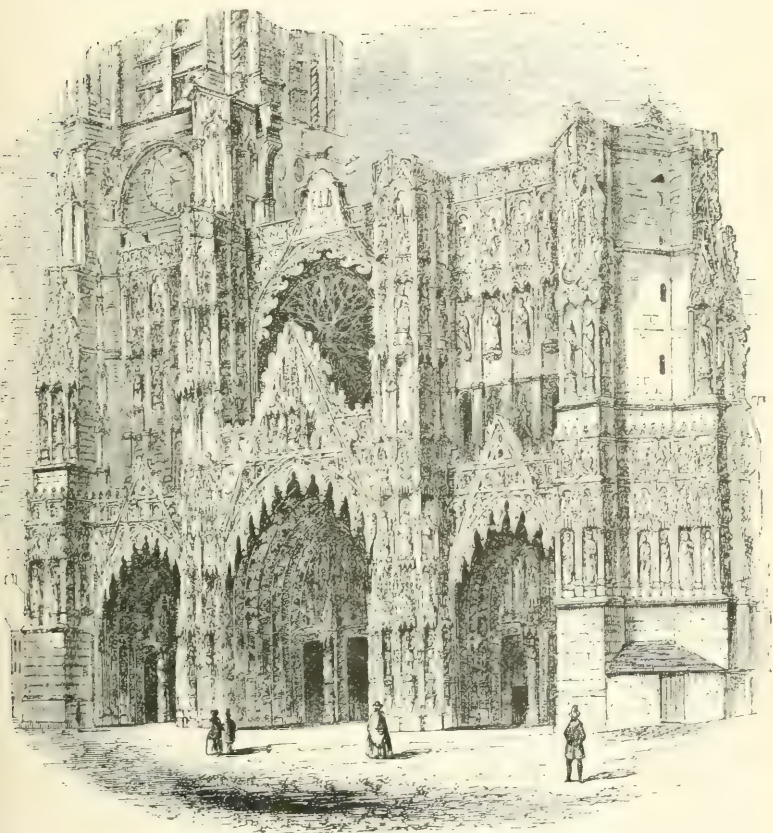


FIG. 142.—Façade of Cathedral at Troyes.

Previous to this introduction isolated examples of pointed arches or other Gothic details had appeared in connection with Norman buildings, as in

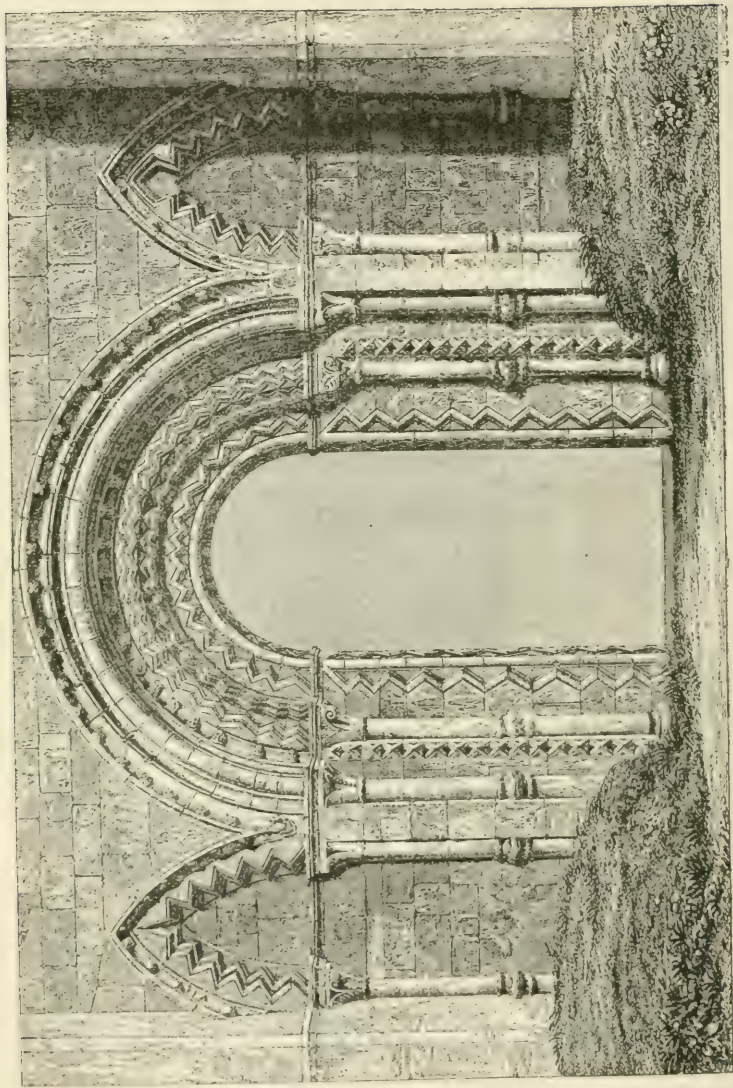


PLATE XLV.—Iffley Church, Oxfordshire.

Iffley Church, Oxfordshire (Plate XLV) (1160), Lanercost Priory (1169), and other churches and abbeys of later date. But these initiatory outbreaks effected little change, and Canterbury led the actual van of Gothic insurrection.

English Gothic, like that of France, is divided into three periods, called : *Early English* or *Lancet* (1175–1300); *Decorated* (1300–1375); and *Perpendicular* (1375–1537).

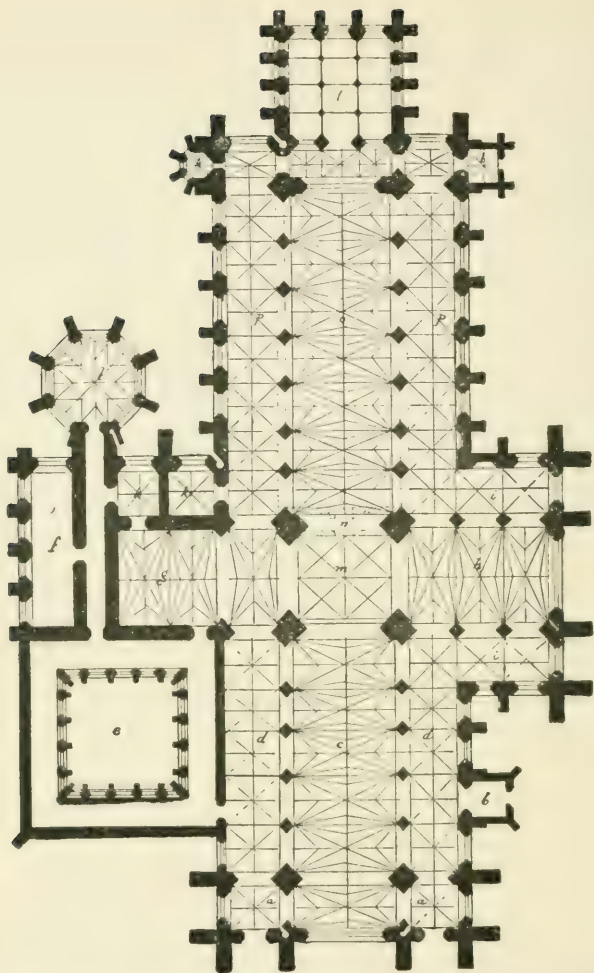
These divisions are merely approximate, as a transitional period always intervened, but they are sufficiently accurate to identify differences and classify successive styles.

Throughout England the cathedral plans were somewhat more varied than those of France, as is shown in the accompanying illustration from Rickman (Plate XLVI); but this may have been due to a more intimate association of monks, abbots, and priors with the episcopal clergy and the lack of rivalry and suspicion which existed between these two bodies in France.

Early English.

Early English shares the distinction with early French of having greater masculinity, force, and simplicity than shows in the succeeding styles. Its richness arises from the number of parts rather than from details, and but for this artistic distribution it might appear plain after the forests of flying buttresses on the Continent.

During the twelfth and thirteenth centuries many members of licensed guilds or Freemasons found their way into England. As their power grew, abbots, prelates, and bishops were ranked among their



- a, a.* Towers at west end.
b, b. Porches.
c. The nave.
d, d. Side aisles of the nave.
e. The cloisters.
f. Library.
g. North transept.
h. South transept.
i, i. Side aisles of south transept.
k, k, k. Chapels.
l. Chapter house with passage from the cloisters.
m. Central tower, cross or lantern.
n. Screen, over which the organ is usually placed.
o. Choir, at the east end of which the altar is usually placed.
p, p. Side aisles of the choir.
q. Lady chapel.

PLATE XLVI.—Plan of an English Cathedral. From Rickman.

number, and it was they who determined the style of a church, and not the people who paid for it.

Their meetings were usually held in private, to guard against outside interference, and gradually assumed that air of secrecy associated with such orders.*

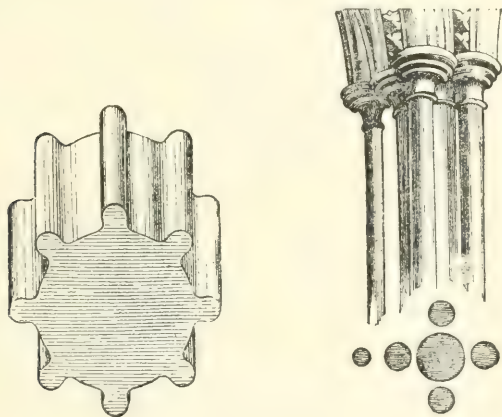


FIG. 143.—Early English piers.

The practical result of these artistic conclaves was unity of action, and this accounts for the extraordinary uniformity in the *value* of early English workmanship.

Uniformity may also be said to characterize the salient features of the style. Arches are pointed and generally lancet-shaped; piers are often composed of a central shaft surrounded by smaller ones, almost or

* During the reign of Henry VI the township of Suffolk entered into contract with the Freemasons for a church, in which it was agreed that a lodge should be erected at the expense of the parish for the purpose of Masonic meetings.

entirely detached (Fig. 143); capitals are carved with horizontal lines or conventional foliage of dispirited

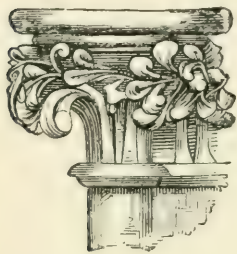


FIG. 144.—Early English cap.

character (Figs. 143 and 144); and all mouldings are bold, round, and deeply cut, or pear-profiled tipped with a fillet (Fig. 145). The rugged mouldings of Norman days were hewn into shape with an axe; but the English artists chiselled theirs till they fell into folds of drapery.

Windows rose taller than in France (Fig. 146), and by their long vertical lines corrected the lack of height in the main and resilient masses; for no attempt at grandeur was made through lofty adjustment, though roofs were open and high



FIG. 145.—Early English mouldings.

when the spaces were spanned without vaulting. Toward the end of the period all windows expanded to let in the breeze and brightness, with less acute arches, and webbed with mullions and delicate tracery.

All other features, however, followed the fashion of France, informed with the fanciful beauty of Rheims or pictorial Chartres.

Salisbury stands as the archetype of the early English style, the only British cathedral begun, continued, and ended in one and the same period—a thing full of rhythmic lines and deep-toned shade, and once glorious with stained glass, fresco, green-bordered tapestries, and mediæval metal work.

It was erected * during the great building reign of Henry III, in which one hundred and fifty-seven abbeys and priories, including Westminster, had their beginnings.

The principal feature to be noticed outside of style characteristics is the bold breaking out of double transepts interrupting the length, whose dark-green shadows streaked with golden sunlight form colour antitheses rarely found in the feeble light of the north.

Portions of the cathedrals of Lincoln, York, Wells, Rochester, Durham, and Ely are in the early English style, as are also the minsters of Beverley and Ripon, but none emulate the unmixed elegance of Salisbury, a purity that has led the critics to hail this Gothic temple as the Parthenon of English art.

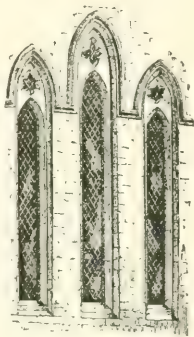


FIG. 146.

* Salisbury, 1220–1258.

The Decorated Style.

The decorated period has been so predicated from the great increase of ornamentation, which began under the second Edward and continued through the reign of the third.

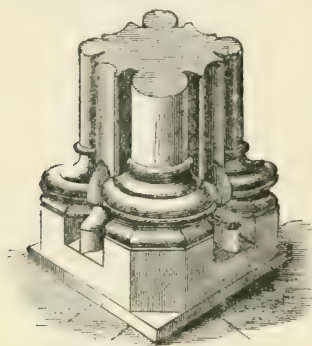


FIG. 147.—Base decorated pier.

In it the proportions were less lofty than in the previous period, though often corrected to the eye by continuing the arch mouldings down the piers, and while doorways were circumflexed with rich pediments and canopied with gables the mouldings

were simpler than before. Thus England's second period was free from the motiveless unconcern of French Flamboyant design, being merely a frank effort after elegance without the errors of excess.

Piers were diamond-shaped, with shafts *attached* or *engaged* (Fig. 147); capitals were composed of oak, vine, and ivy leaves, realistic or conventional (Fig. 148); vaulting multiplied its ribs and elaborate pendent bosses; and the cen-

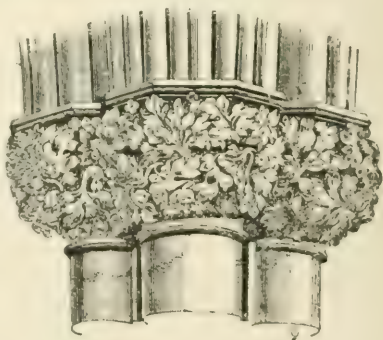


FIG. 148.—Decorated capitals.

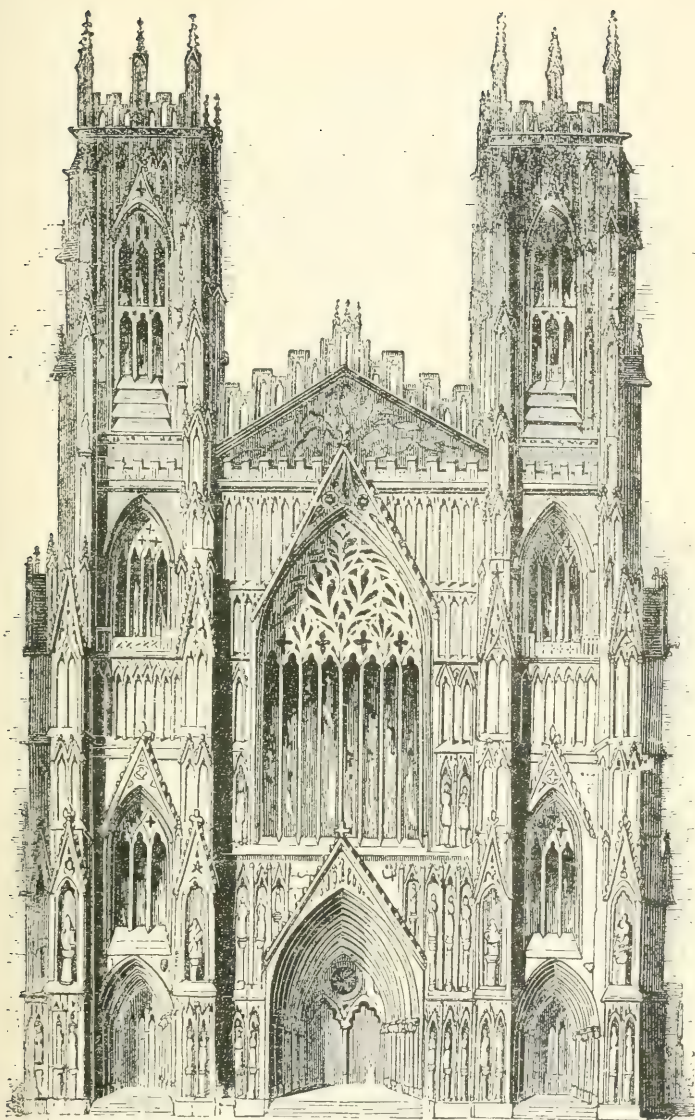


PLATE XLVII.—West front of York Minster. Decorated English gothic.

tral tower, characteristic of English work, continued to form a pyramidal climax.

York Minster (Plate XLVII) is the pride and boast of the style, and bears much the same relation to Decorated work as Salisbury to Early English. It contains all the characteristics enumerated above, as well as large mullioned windows filled with stained glass, like clustered enamels or polished gems, and beautiful specimens of *plate tracery* or piercings through flat stones.

This latter feature, being first introduced at Westminster Abbey, rapidly became the principal distinguishing mark of the style, and from circles and segments of circles developed into complex labyrinths of form, like loops of lace from the industrious looms of Bruges and Valenciennes.

Lichfield, Exeter, Wells, Norwich, and Ely cathedrals all bear witness to the beauty of this tracery, a beauty which carried the decorated style into the van of English successes.

The Perpendicular Style.

The most salient feature of perpendicular architecture was *panelling*: panelled doors, panelled walls, panelled perforated parapets—indeed, everything was panelled (Plate XLVIII), both inside and out, and frequently the whole front of a house was little more than a panelled screen, as in the George Inn, at Glastonbury (see Fig. 149).

Arches assumed all the various degrees of poignancy, but the *Tudor* or *four-centred arch* was the most characteristic kind (see Fig. 149, doorway).

Next to panelling *fan vaulting* (see Fig. 140) was

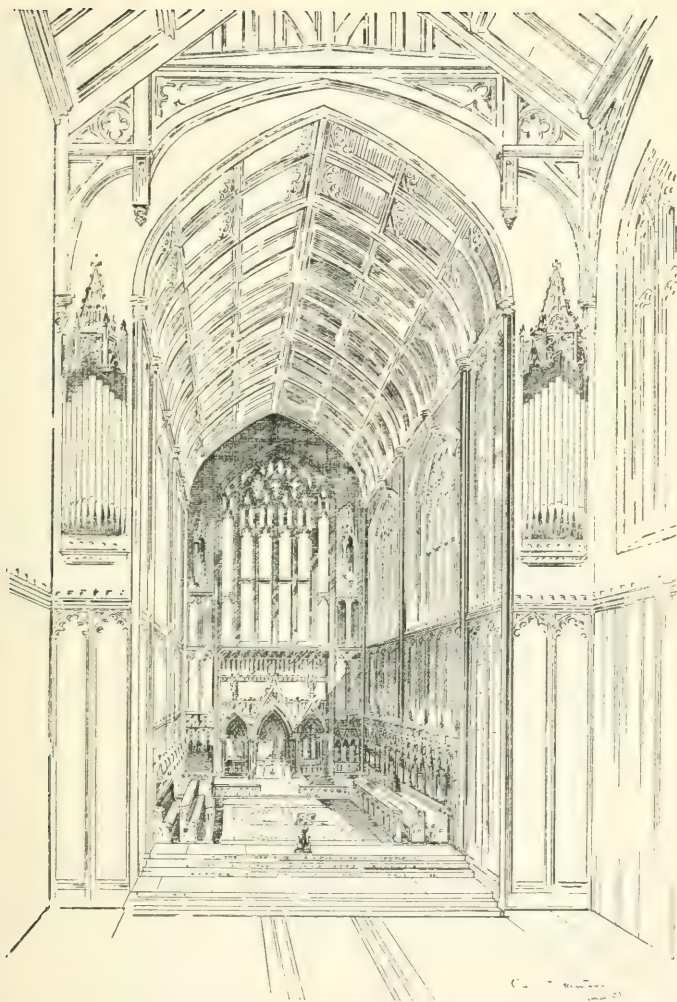


PLATE XLVIII.—Chancel showing panelling in the perpendicular style. Designed by the author.

the most important peculiarity. It was an English invention. In it the ribs are spread out fanlike

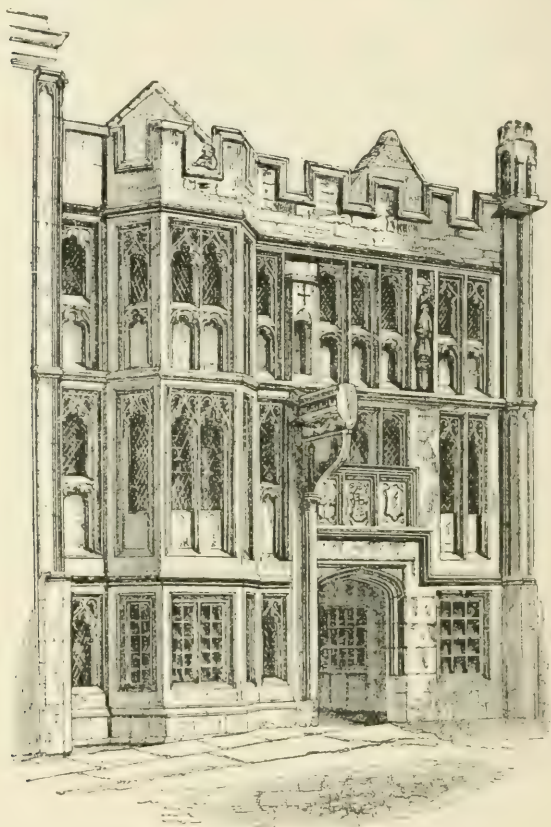


FIG. 149.—George Inn, Glastonbury.

from the sheaf of mouldings in the pier, tracing a perfect semicircle on the ceiling. Each semicircle above the four piers is tangent to a central circle,

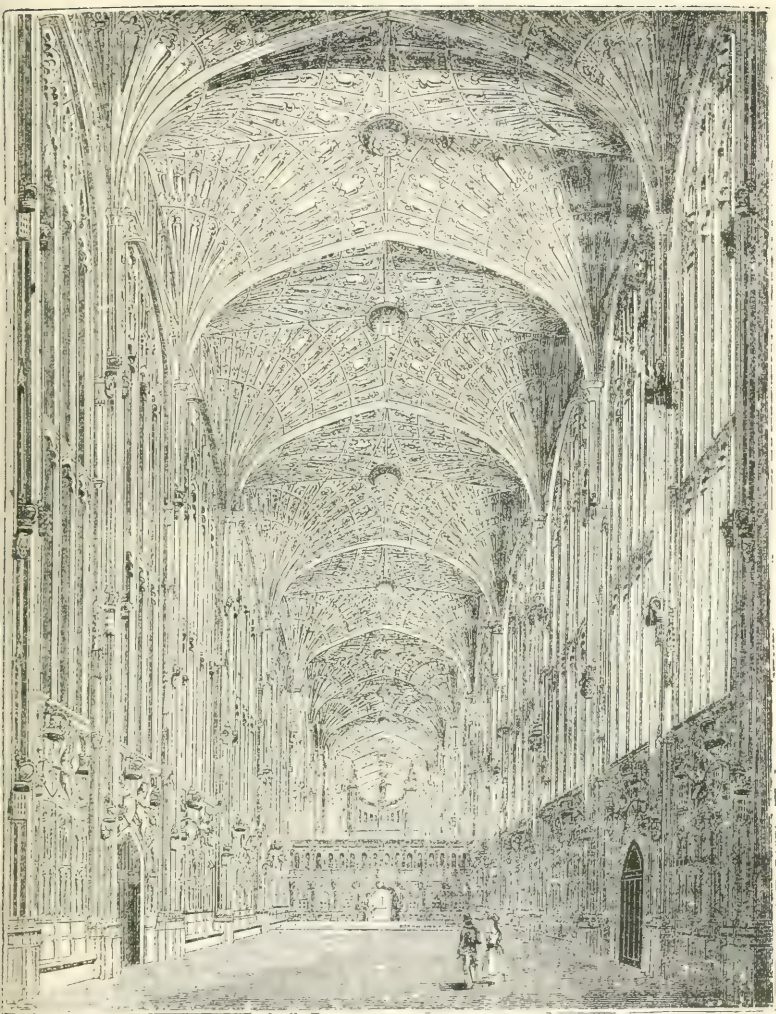


PLATE XLIX.—King's College Chapel, Cambridge.

from which hangs a pendent keystone adorned with sculpture; and all interstices are filled up with the inevitable panel.

The finest examples of fan vaulting are to be seen in the chapels of St. George, at Windsor, King's Col-

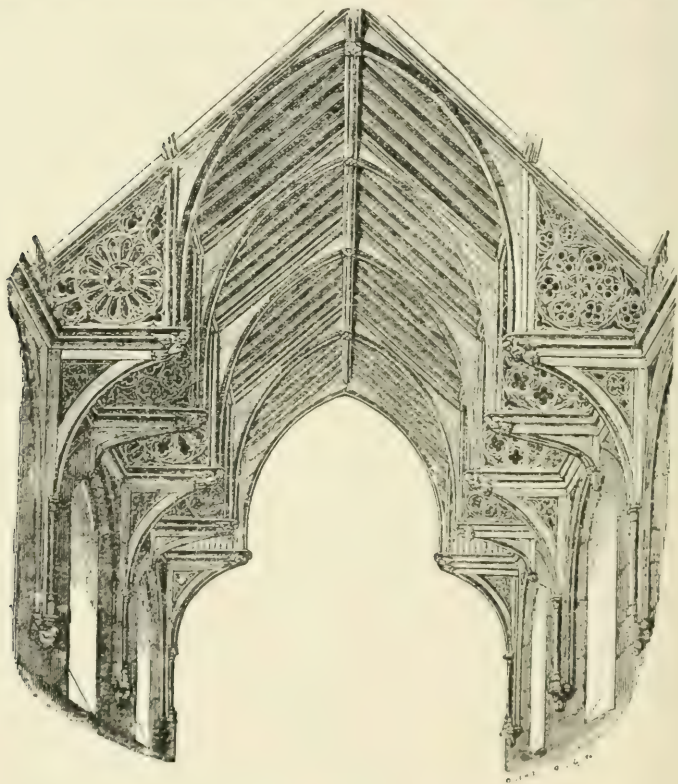


FIG. 150.—Roof at Trunch Hall, Norfolk.

lege, at Cambridge (Plate XLIX), and Henry VII, Westminster (Fig. 14C).

The chapel of Henry VII was begun in 1502 and completed in fourteen years. During the religious changes it suffered much damage and desecration, and under the Commonwealth the "Commissioners for gathering Ecclesiastical Goods" carried away most of the plate and furniture contained therein. Later the chapel became the property of the Dean and Chapter of Westminster, who have since expended much revenue keeping it in repair.

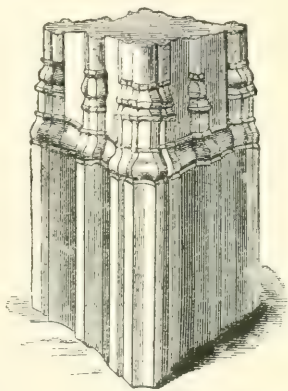


FIG. 151.—Base of perpendicular pier.

All the mouldings of the perpendicular style are coarse, whether used for capitals or for fluting piers (in which latter case they are continued from the bases through the arches), and the same lack of refinement often cheapens the foliage. But open timber roofs reached the highest pitch of perfection, and, richly carved with tracery, angels, and armorial bearings, show a scale and felicity of workmanship beyond rival in Europe.

The roof of Westminster Hall, designed by Master Henry Zeneley, and Trunch Hall, Norfolk (Fig. 150), are justly held the masterpieces.

Other perpendicular peculiarities are diamond-sectioned piers (Fig. 151), flattened roofs, projecting porches, embattled parapets, and *transoms* or cross-bars to stiffen the panelled tracery of the windows, to which may be added a square *label*

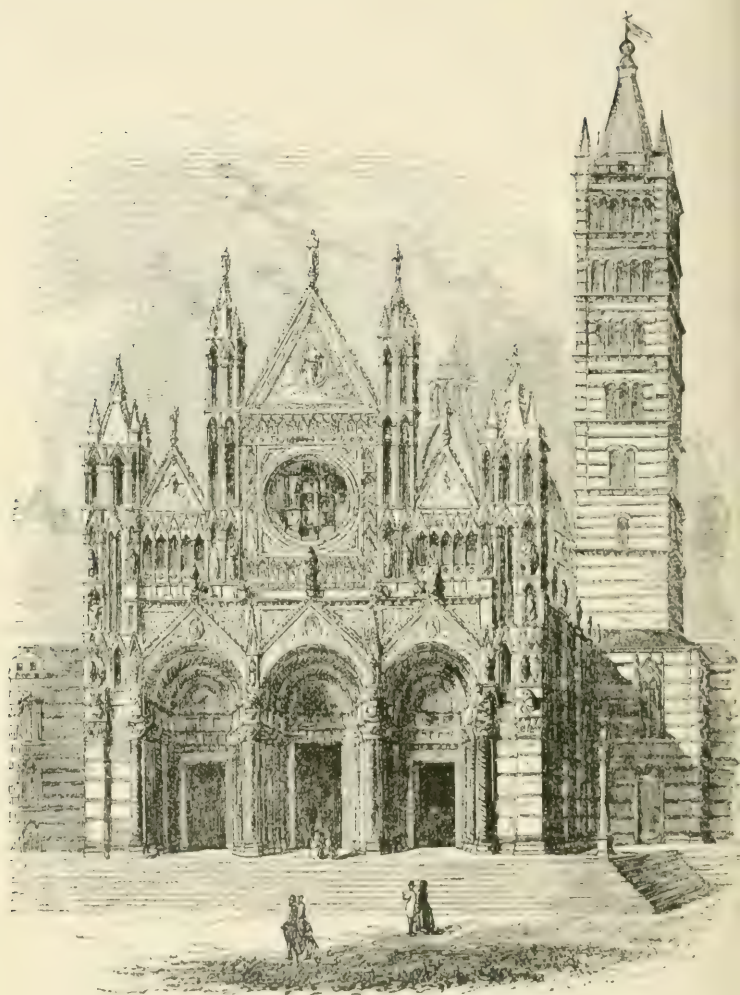


PLATE L.—Cathedral at Sienna.

or moulding over every door unless the latter be canopied.

Beverley Minster, Melrose Abbey, Winchester Cathedral, and Beauchamp Chapel are the conventional quotations for the style. Each has a certain charm of line, though frequently little more than a capricious form of cabinet work.

But when everything is said, perpendicular architecture surpassed in many ways the restless, overburdened Flamboyant, though it never approached that abstract disembodied beauty which one ever associates with the early frescoed fanes of France.

CONCLUSION.

A study of ecclesiastical Gothic in France and England practically covers the whole subject, for though Germany and Spain raised up worthy rivals in the cathedrals of Cologne,

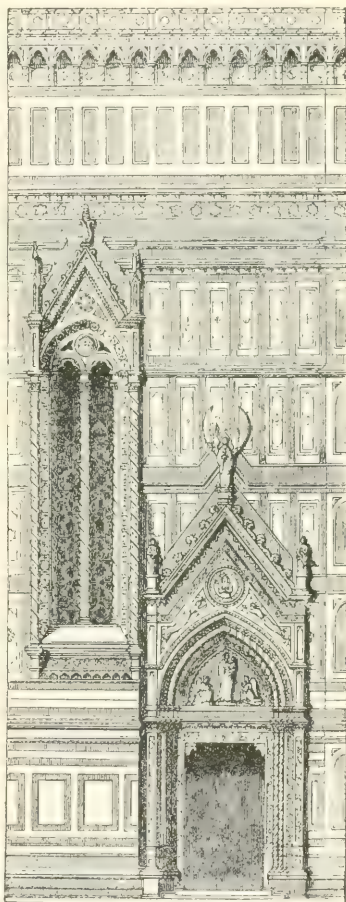


FIG. 152.—Portion of the Cathedral at Florence.

Burgos, or Toledo, all these and others were but local adaptations of French and English principles.

Italy's adaptation was perhaps the most original, but by far the least Gothic.

Throughout, it was informed with classic feeling arranged in Gothic form and adorned with inlay of precious marbles and Oriental colour—facts clearly exemplified in the cathedrals of Orvieto, Sienna, and Florence (Plate L and Fig. 152).

The only exception to the rule is the Duomo, of Milan, on which German architects were primarily employed; but when a long time later Pellegrini took command a changed façade was added in the newborn classic style.

CHAPTER XIII: THE GOTHIC STYLE— SECULAR.

SHORTLY after the death of Charlemagne poor examples of military architecture greatly increased and every height bristled with some species of fortification, generally tenanted by robber lords or barons, who fought, quarrelled, or pertinaciously plundered the territories of one another.

These depredations were so continuous that in 864 Charles the Bald ordered the demolition of most of these strongholds throughout his domain, and so unconsciously paved the way toward a newer and nobler style of feudal architecture. For as these fortresses began, one by one, to be rebuilt their aspect improved; so much so, indeed, that those lords who had evaded the edict were compelled, through pride or shame, to make complete remodelments.

Before the decree a feudal castle was composed merely of a palisaded inclosure, with a *fosse* or ditch, a few interior dwellings, and a high *donjon* tower, generally of wood.

After the decree everything was of stone; and, as the abbots and bishops had planned and directed the construction of monasteries and cathedrals, so it

pleased the warrior kings and great baronial lords themselves to enhance and perfect their abodes.

Thus Richard Cœur de Lion personally directed the building of the Chateau-Gaillard, the key to Normandy; William the Conqueror superintended a great portion of the work on Windsor Castle; and Enguerrand III de Coucy was architect of the celebrated *chateau* (Fig. 153) bearing his name, whose mighty strength probably inspired the arrogant device:

Roi ne suis, ni Prince aussi;
Je suis le sire de Coucy.

All mediæval castles followed the same general principles.

The favourite site was a scarped height overhanging a river or chasm. To gain this an armed host had first to pass the *barbican* or outer work, composed of a bridge fortified with towers (Fig. 154) or merely palisades; next the *drawbridge* over the moat; then another palisade; and finally the first embattled wall of the castle, often many yards in thickness.

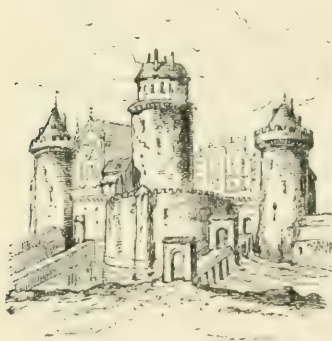


FIG. 153.—Chateau de Coucy.

The castle itself was composed of two walled inclosures called the *inner* and *outer bailey*, each filled with dwellings, while from the centre rose the high *donjon* tower, some two hundred feet in air.

In England the donjon was usually square, and called a *keep*, good examples of which may still be seen in Rochester Castle and the White Tower of the Tower of London; but later the square shape was generally abandoned.

Much ingenuity was expended on secret passages and closets in the thickness of the walls, concealed

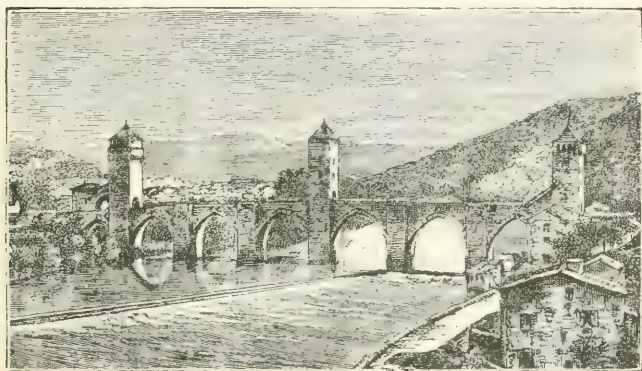


FIG. 154.—The barbican.

doorways, dungeons, and subterranean exits, the knowledge of which was more than jealously guarded. Indeed, on one occasion, Alberade, Countess of Bayeux, ordered the architect Lanfroi to be put to death lest he might divulge the constructive secrets created by him in her *chateau* at Ivry.

Beneath the tower often stretched dungeon after dungeon, into the very bowels of the earth. Some were square and set side by side, others beehive shaped and placed one below the other, and these soon acquired the appropriate name of *oubliettes*. Into these a prisoner was lowered through a hole

at the top ; and through the same orifice his jailer dropped his food, when such a thing was deemed necessary.

The *oubliettes* of Pierrefonds still stand to illustrate the pressing hospitality of mediæval barons ; and those of Losches, where Sforza's sable locks turned white in a night, still continue to delight the hearts of morbid tourists in Touraine.

Castles erected at the close of the thirteenth century show progress in comfort and convenience ; and in the fourteenth and fifteenth centuries assume more and more the shape of modern dwelling houses, especially in England—a thing best exemplified in Penshurst, the home of the Sidneys, and Haddon Hall, each one of which contains a grand baronial hall, finely panelled, with its raised daïs, minstrels' gallery, giant fireplace, and mullioned windows.

Manor houses or castellated mansions of this description comprehended state apartments, kitchens, butteries, lodgings for retainers, and (throughout England) exquisite open-timber roofs of the perpendicular period, carved with tracery and angels hugging escutcheons to their breasts.

A large apartment lighted by bay or oriel windows, adorned with rare tapestries and cushions embroidered by (presumably) fair chatelaines, was used to receive the guests, and distinguished as the presence or privy chamber ; while a similar room, exclusively for ladies, was called “ my lady's bower ” or boudoir.

But while the English surpassed all nations in their country homes, the Italians and French excelled in civil architecture.

In Italy the party struggles of the nobles were so fierce and desperate even in one and the same city that palaces and dwellings of lords or people of importance assumed the air of small fortresses; and even the government buildings with certain adjacent streets could be converted into strongholds at a moment's notice and garrisoned for a siege. (See neighbourhood of the Piazza del Campo at Sienna—Fig. 155).

Each palace rose grim, sombre, and threatening, crowned with crenellated parapets and guarded by a truculent tower, which, like a giant sentinel, lifted its head high into the purple air, as in the case of the Palazzo Vecchio, at Florence.

But though severity was the dominant characteristic, the proportions were exquisite. In most cases the pointed windows were mullioned and the walls were inlaid with rare Carrara marble.

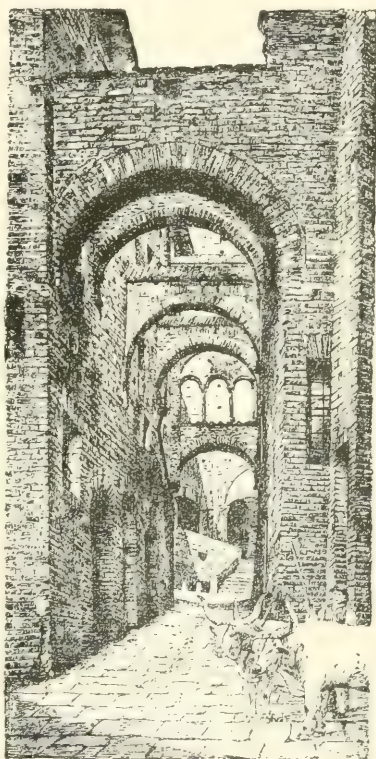


FIG. 155.—Neighbourhood of the Piazza del Campo at Sienna.

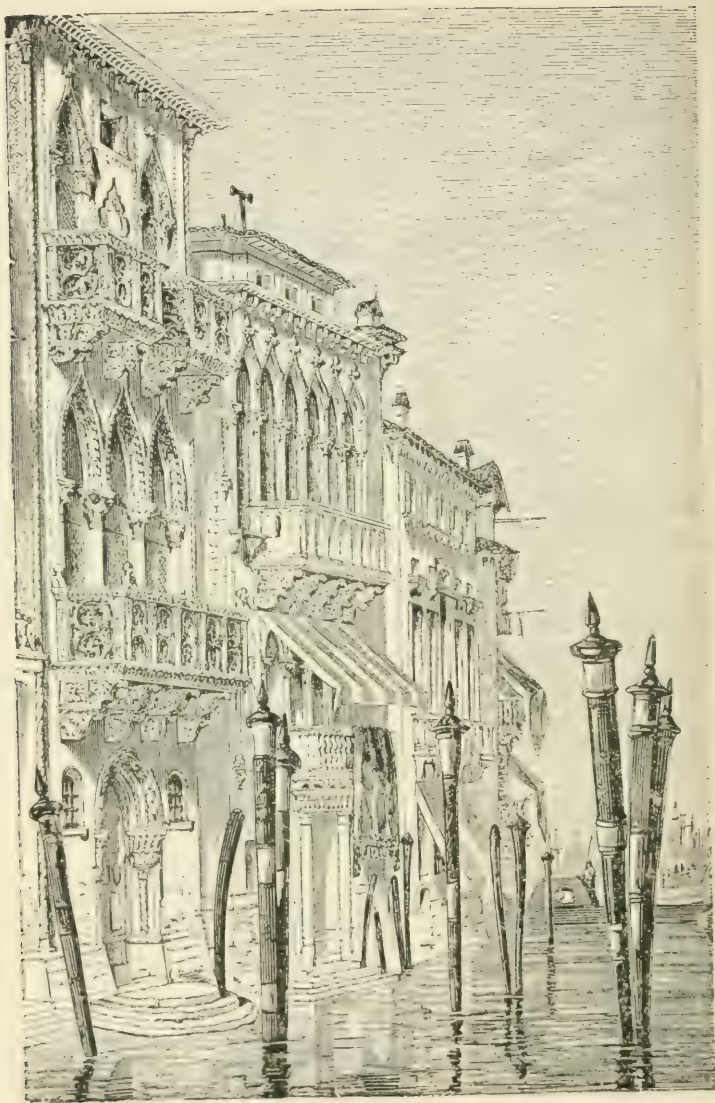


PLATE LI.—Palaces on the Grand Canal, Venice.

At the approach of the Renaissance the interior courts expanded into smiling parterre gardens, fountain filled and joyous, like spaces of sunlight in the cold, and sober arcades forgot to frown when bending above the frescoes of the *cinquecento*.

Venice created a fairy Gothic style, well adapted to the flat elevations of her water palaces.

Many of these congruous buildings rose opposite to St. Mark's, with its crusts of marble and gold and chance interchanges of light and shade, and echoed in a measure its half-barbaric splendour.

The finest examples are the palace of the Doge and the palaces of the Grand Canal, which after a glance at the accompanying illustration (Plate LI) scarcely require further explanation.

In France, civil architecture was less fantastic but none the less elegant.

During the Romanesque period the secular buildings of the better class were little more than diminutive editions of monastic architecture. Those of the *bourgeoisie* were generally composed of stone in the lower stories and wood in the upper part; but as the power of the laity increased, all gradually assumed a more distinctive character, with certain differences contingent on location.

In the south, stone construction continued to hold sway, while in the north *wood* was the more popular, for in Champagne, Burgundy, and the royal domain, forests abounded, and forests no longer protected by feudal law.

Peaceful southern cities occupied larger surfaces, and did not need to increase the *number* of floors in their houses, but the warlike villages of the north



PLATE LII.—Half-timbered houses of Lisieux.

were hemmed in by fortified walls, which compelled a multiplication of stories as the population increased.

To gain further space, each story overhung the one below, narrowing the street more and more and shutting off the light; but this was somewhat alleviated by increasing enormously the size and number of the windows, which, picturesquely filled with

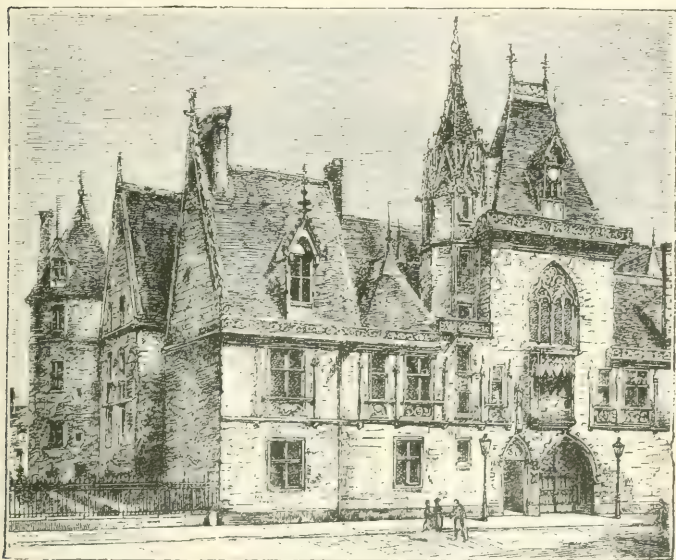


FIG. 156.—House of Jacques Cœur at Bourges.

leaded glass, lent the façades that singular charm peculiar to the Middle Ages.

Often the exterior woodwork was chamfered, and chiselled into graceful bas-relief; but this treatment was mostly confined to the fifteenth century, or period just preceding the Renaissance.

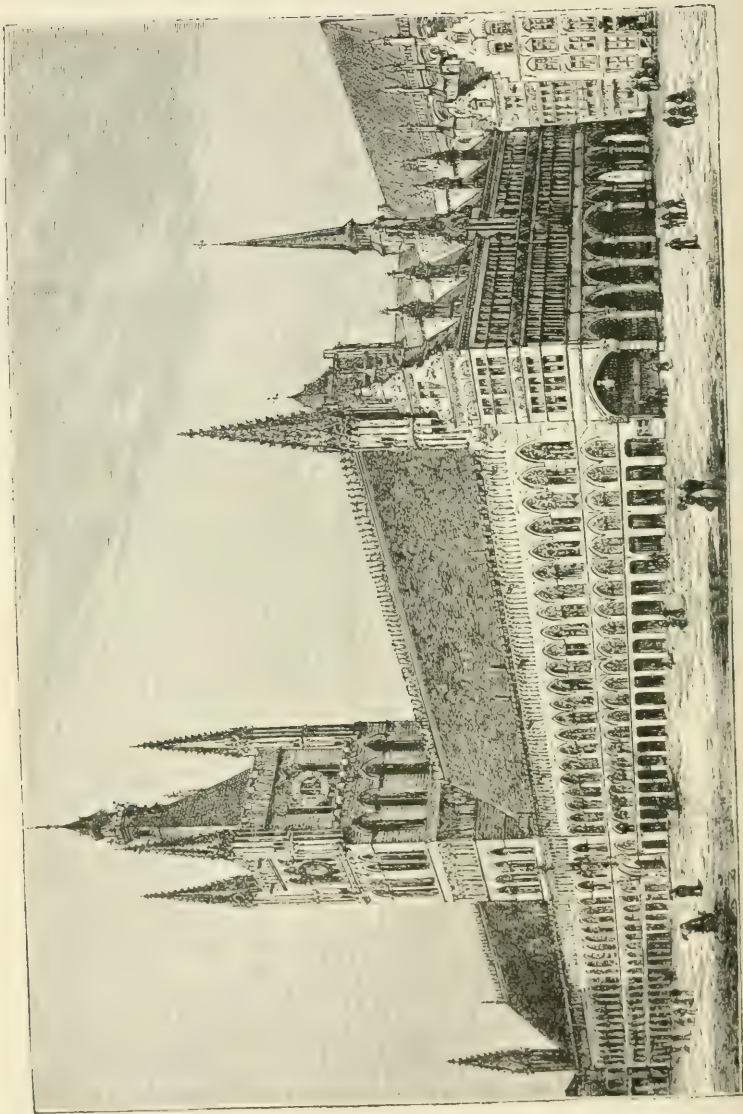


PLATE LIII.—Hotel de Ville at Vpres.

In England we find much the same style of dwelling, and the half-timbered houses of Shrewsbury and Chester resemble those of Lisieux (Plate LII), while in Germany this form of building became almost a craze.

The houses of rich burgesses hold an important position in French civil architecture, and frequently outstrip the seigneurial abodes of city noblemen. Such a one may be seen at Bourges, in the house of Jacques Cœur (Fig. 156), the silversmith of Charles VII. Few royal palaces of the time surpass this beautiful building, and those which do, excel it only in extent.

Influential citizens like Jacques Cœur soon discovered their need of a town hall, a need apparently universal, for soon *hôtels de ville*, or town halls, sprang up all over Europe, especially in Flanders and northern France. Ghent, Bruges, Brussels, Oudenarde, Louvain, and Ypres (Plate LIII) all contain fine examples, splendid in extent, splendid in execution, each crowned by a giant belfry tower, a sort of municipal donjon, dominating the whole.

The finest of these is at Ypres (Plate LIII), whose foundation stone was laid by Count Baldwin, who three years later was hailed Emperor of Constantinople.

Other beautiful buildings in the secular Gothic style still extant are: Westminster Hall, the Hôtel Cluny at Paris, the Château de Langeais, the Hôtel Bourtheroulde, and the Palais de Justice at Rouen (Plate LIV).

The last building is one of the most interesting and anomalous. It was designed in the very worst

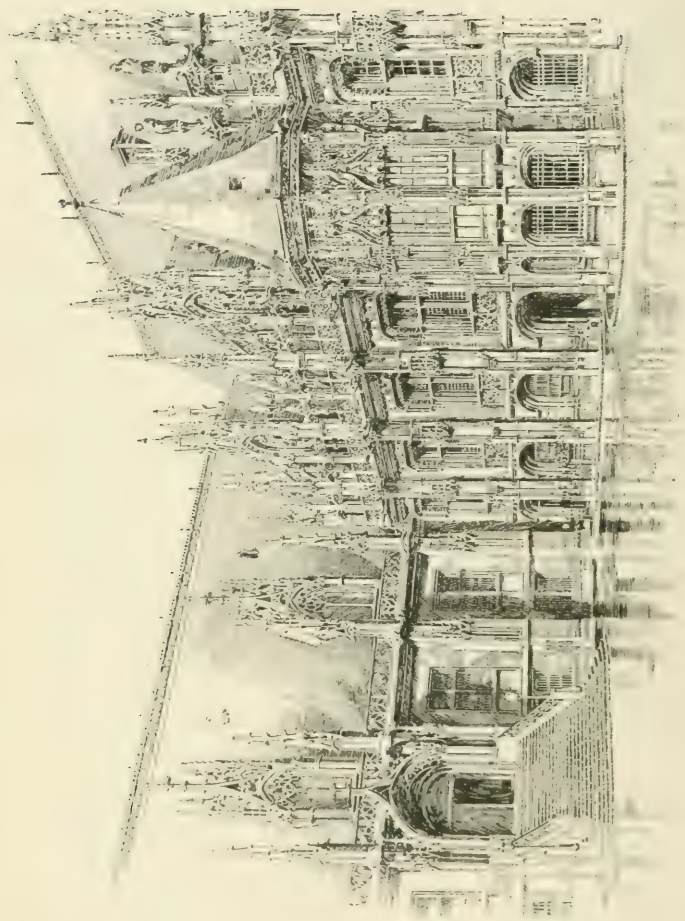


PLATE LIV.—Palais de Justice at Rouen.

period of Gothic art, when a dangerous perfection of craftsmanship had tempted the most conservative into exuberance and over-elaboration; yet even a purist can scarce weary of its gorgeous versatility.

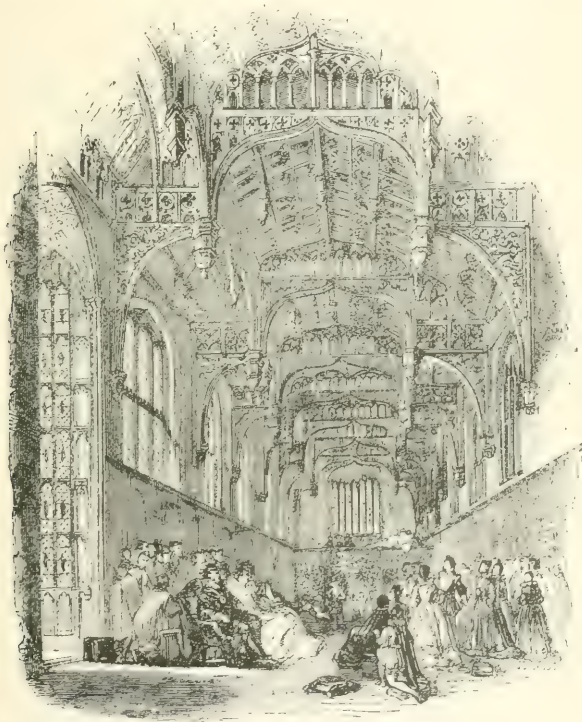


FIG. 157.—Carved Roof of Wolsey's Hall, Hampton Court.

For though one portion is somewhat crowded with conventional carving, it is merely a concession to the fashion of the day, and, while so doing, the architect has chastened the whole to the very last de-

gree of refinement—chiselling and engraving with the delicacy of filigree, and subduing all to the proper degree of relationship between ornament and mass.

No treatise on secular Gothic is complete without referring to the Tudor architecture of England, a domestic style which sprung up under Henry VII and Henry VIII, and composed of “perpendicular” forms applied to the *castellated* class of buildings described in the early part of this chapter.

In it were certain innovations, however, such as battlemented *transoms*, multiplied windows, Tudor flowers, *fleur-de-lis*, and over-elaborated roofs, most of which were wrought into the palaces of Sheen (Richmond), Beaulieu (Essex), Hampton Court (Fig. 157), and Nonsuch House, while occasionally there appeared isolated classic elements, which caught the attention, and paved the way to the English renaissance.

With this style all distinctions between *castellated mansions* and domestic architecture cease to exist; mediæval architecture ends and modern architecture begins. But though it merely marks a transition between two kinds of civilization, still it contains a certain charm.

CHAPTER XIV: THE RENAISSANCE.

ITALY.

THE term Renaissance means more to the architect than *a rebirth of the classics*. It denotes the gradual abandonment of picturesque irregularity for symmetrical elegance; the subordination of Gothic precedent to classic precept; and a preference for monumental splendour to constructive *tours de force*; in a word, the genesis of modern art and its creative principle.

In the year 1403 Filippo Brunelleschi, fired by the works of Vitruvius, made his first pilgrimage to Rome, there to study classic antiquities and hammer away at an idea which eventually shook the world, earning for himself as much as any other single individual the title of *father* of Renaissance architecture.

But no one man ever invented a style. Though Brunelleschi pointed the way, he was not a creator; other causes, other influences much more powerful, were at work—the same causes and influences which gave European civilization its chief impetus.

These were the general collapse of the feudal system after the retirement of Charles V, whereby men thought more for themselves, fought less for their

lord, and discovered for the first time that they possessed an individuality ; the progress of physical science, with Galileo pointing the way and Guttenberg's printing press to record it ; the decline of ecclesiastical power and the Reformation, which taught men the right of private judgment ; while the fall of Constantinople, with its scattering of scholars, aroused new interest in Greek and Latin literature and instilled a love and reverence for all things classic.

And so as we examine the *campanile* of Giotto, the sculptures of the Pisani, the Palazzo Vecchio of Arnolfo, and Orcagna's famous work, we see that the Renaissance did not leap into existence like Pallas Athene, full grown and mentally equipped, but rather struggled through adolescence, having its roots far back in the fourteenth century, but unable to impress its individuality as a style until about 1430, when it compelled recognition under the name of

“ *The Cinque Cento or First Period* ” (1430-1515).

During this era Florence was the stage on which, for the most part, the art drama of the Renaissance was played.

True, there were schools at Rome, Milan, Naples, and Genoa ; and the Visconti of Venice, the d'Estes of Ferrara, the Malatestas of Rimini, and the Bentivoglios of Verona all protected art. But from 1430 to 1515 the Tuscan capital displayed an independence of thought and taste which easily placed her in the lead.

Hitherto architecture had been mainly military or religious, its decoration dictated by sentiment or piety, mere artistic effect being looked upon as

pagan ; now a reaction set in, and love of beauty for its own sake characterized the time.

Stimulated by such works as the cathedrals of Sienna and Orvieto or Giotto's masterpieces, great innovations began to appear. Civil buildings, though still severe and externally rusticated, no longer carried embattled parapets, but cornices, as in the Ricardi and Strozzi palaces of Michelozzo. The principle of centralization or central climax was carried into effect in the Pazzi Chapel, followed by the simultaneous appearance in many directions of semi-circular and segmental pediments and bands of green-marble inlay ; while frescoed arcades, pilasters panelled with arabesques, and simplicity and elegance in the carving of doors soon became characteristic features of *cinque cento* times. In regard to carving, the doorways of the Baptistery (Dante's "*mio bel San Giovanni*"), by Ghiberti and Andrea Pisano, still stand as one of the world's chiefest treasures of human skill, and one might add of human patience, when it is considered that each required about twenty-two years for completion.

The year 1460 introduced the most important innovation—namely, the employment of *classic orders* for the exterior decoration of each story and as a framework for the windows, first shown in the Rucellai palace—a thing which gave lightness and elegance to buildings still somewhat fortresslike in character on account of the strifes of Guelph and Ghibelline.

From this treatment a problem arose : Should the main cornice be left proportional to the upper order, it would appear too small ; on the other hand, if made

proportional to the whole height of the building, it would seem too large for the sustaining order.

At this juncture Leon Battista Alberti promptly came to the front and ultimately decided the matter in the above palace by making the main cornice larger and the intermediate cornices smaller than would be proportional to their respective orders, thereby effecting an integral harmony.

In *cinque cento* times an innovation had but to be born to germinate spontaneously into custom. One sees accordingly without surprise the above characteristics appearing almost contemporaneously in the Strozzi palace and other Florentine buildings. Wherefore, notwithstanding Michael Angelo's "*Chi va dietro ad alcuno non puo mai passari inanzi*," * the breadth of mind which allowed rival architects to be willing to learn from one another redeemed many, like Majano, Cronaca, D'Agnolo, and Filareti, from the position of lesser lights.

In ecclesiastical work of the time appears a feature which should not be overlooked. For, aside from San Lorenzo and San Spirito (the purest fifteenth-century churches), arose the custom of giving Renaissance flavour to old Gothic houses of worship by applying classic forms to their exteriors. Thus in Santa Maria Novella and San Francesco at Rimini the entire façades were overlaid by Alberti with classic orders, a complete triumphal arch being applied in the latter case. The Certosa, near Pavia, also bears a remarkable early Renaissance illustration on its front, while in the Cathedral of Florence

* "He who follows a man can never be before him."

the same idea culminates in the great dome (Fig. 158), the competition for which has been handed down through Vasari's racy account, adding another laurel to Brunelleschi, whose bones rest beneath this monument of his genius.

In the matter of interior decoration and the auxiliary arts, no century, save the sixteenth, ever pos-



FIG. 158.—Brunelleschi's dome, Florence Cathedral.

sessed such rare opportunities. For what with sculptors and workers in metal and *faïence*, like Donatello, Setignano, and Mino da Fiesole (the Raphael of marble), and fresco painters like Massaccio, Fra Angelico, Ghirlandajo, and Signorelli, the mind grows confused with any attempt to catalogue the wealth of ornamental decoration in any succinct formula.

A few general features, however, were delicate

carvings in low relief accentuated with points of shade by Rovezzano's skilful hand; coffered ceilings, having large panels filled with paintings by the great masters, mirrored by polished, curiously wrought *intarsia* floors, which rang to the tread of the Medici in all their palaces; while here and there throughout Tuscany and Lombardy, in church and palace, externally and internally, enamelled terra cotta (now green and yellow, now blue and white) called attention to the genius of the Della Robbia family, who held the secret of the glaze.

Indeed, every internal feature, from tapestries, agate and lapis-lazuli mosaics, ornamental bronze cressets, candelabra and pendent lamps, down to linen chests and the meanest of household utensils, served but as vents for artists to expend their indescribable imagination and passion for sumptuous carving; and it was partly owing to the fact that this wanton fancy was allowed to run riot, that it became gradually chastened into that spirit which led to the golden age of art known as the

"Sci Cento" or Second Period.

During the sixteenth century the scene of development was confined principally to Rome, and the great hierarchs of art strode into the arena.

One reason for the change of scene was the impassioned study of classic remains so keenly awakened at the time; but even this could not have held the geniuses of other cities at Rome were it not for the wealth of that city and the ambition of Pope Julius II to be chronicled as the greatest patron of art who had yet occupied the papal chair.

For, whatever his faults, certain it is that Julius was the friend of the artist, and gave to genius that rare opportunity for carrying out its designs which an unstinted liberality alone can bestow.

Meanwhile, unaffected by love for the borrowed Oriental forms which had swept over Byzantine Venice (shown in her church interior decorations "from looted Eastern harem floors"), there worked and studied at Rome Bramante, San Gallo, Peruzzi, Michael Angelo, and Raphael, "the evangelists of art," displaying that quiet refinement of taste and free use of the orders, tempered with common sense, which gave the keynote to the great harmonies of form which adorned the *sei-cento*.

These characteristics were especially noticeable in the work of Bramante, of whom Vasari says, "A more exalted genius could not well have been imparted to any one," and a glance only is required at the Cancellaria, the Church of S. Pietro, in Montorio, and the courts of the Vatican to apprehend its truth.

To Bramante, too, belongs the honour of having made the first design for St. Peter's, in the form of a Greek cross surmounted by a dome—a design which, so far as refinement of composition is concerned, was never surpassed by subsequent architects.

Down to 1575 the prelates and princes of Rome had directed their attention to palaces rather than to churches. These were for the most part after one pattern—namely, square, inclosing a court surrounded by an arcade rich in design and decorated with the *orders*. The exteriors were simple, almost bare, yet escaped the fortress character of some of those at Florence, and were carefully divided into

stories. The Farnese palace, designed by Antonio San Gallo, with the exception of its cornice, which was by Michael Angelo, shows these characteristics, and is one of the best examples extant, though the antiquarian shudders when he remembers that it is chiefly composed of stone plundered from the Colosseum.

The courtyards of Roman palaces were usually more artistically disposed than those of Florence, the main hall coming down in a solid manner to the ground, and the *cortile* thus formed being lined with an arcade of one or two stories. To men who had served apprenticeships as jewellers, sculptors, and painters before undertaking the architectural art (as did most of the old masters) the *loggias* thus formed afforded abundant opportunity for the exercise of their skill, and Raphael has left us a charming example of what can be done with fresco in the *loggia* of the Vatican (Plate LV), which gave rise to the well-known expression of advice, "Compose like a giant, but finish like a jeweller!"

A thorough master of this truth was Baldassare Peruzzi (whose Palazzo Massimi and Villa Farnesina show attention to detail after the constructive necessities have been disposed of), ignorant of jealousy where art was concerned, as is shown in his associating Raphael with himself in the adornment of the above villa, and not disdaining to follow the old Roman orders with a closeness that had not yet developed into Palladian formalism.

Quite the reverse of Peruzzi was Michael Angelo, the leviathan of Renaissance art, all of whose work shows colossal genius, though hasty execution, since

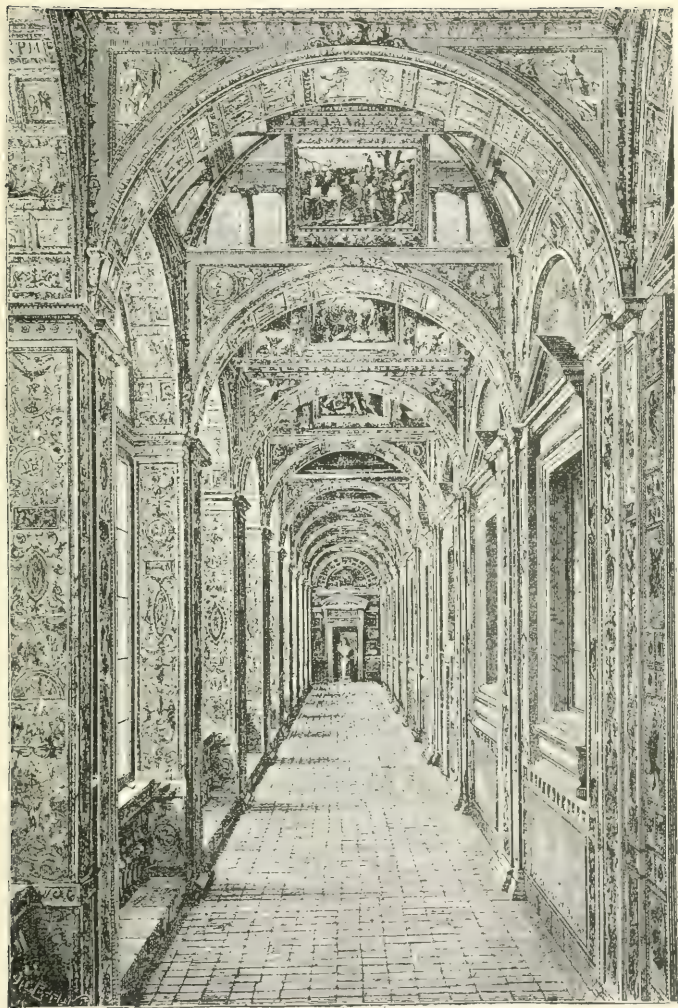


PLATE LV.—Loggia of the Vatican.

more ideas thronged upon him than he could conveniently express. Painting, sculpture, and architecture were all alike vents for his varied imagination, it being a mooted point in the *Sagrestia Nuova* of San Lorenzo whether the sculptures were modelled



FIG. 159.—St. Peter's Church, Rome.

to adorn the building or the building erected to hold the sculptures.

With him began the use of classic orders without regard to the division of stories, thereby relieving the monotony sequent upon the superimposed orders in very large buildings, while ecclesiastical ceilings received a new impetus from his labours upon the Sistine Chapel.

At Bramante's death the responsibility of building St. Peter's (Fig. 159) had devolved upon Giuliano San Gallo, Fra Giocondo, and Raphael, the last having won his architectural spurs in designs for the Pandolfini palace (Plate LVI) and the Villa Madama.

On their accession to the post, this triumvirate had attempted to improve on Bramante's plan by changing its form from the Greek to the Latin cross. This error was corrected by Peruzzi, to whom the position of chief architect was next accorded, only to be followed by Antonio San Gallo, who returned to the erroneous Latin scheme.

Michael Angelo displayed his usual sagacity and taste by returning to Bramante's original plan, only strengthening the piers for supporting the dome and adding a porch, which was afterward abandoned.

Unfortunately, he never lived to see his great dome finished, though Vignola and Giacomo della Porta completed it from a wooden model, thereby leaving to us the best example of its kind in existence—better lighted than Brunelleschi's, its acknowledged model, and serving as a useful study to all subsequent builders.

With Michael Angelo's death the Renaissance passed under the influence of Vignola and Palladio, who became to architecture what grammarians are to rhetoric, and gave a definite shape to that tendency under the influence of which Michael Angelo had worked—namely, the use of classical motives based upon the principles of the ancients.

All Vignola's work reveals this idea, and shows to what extent careful study influences art, his buildings being especially noteworthy for the proportioning of

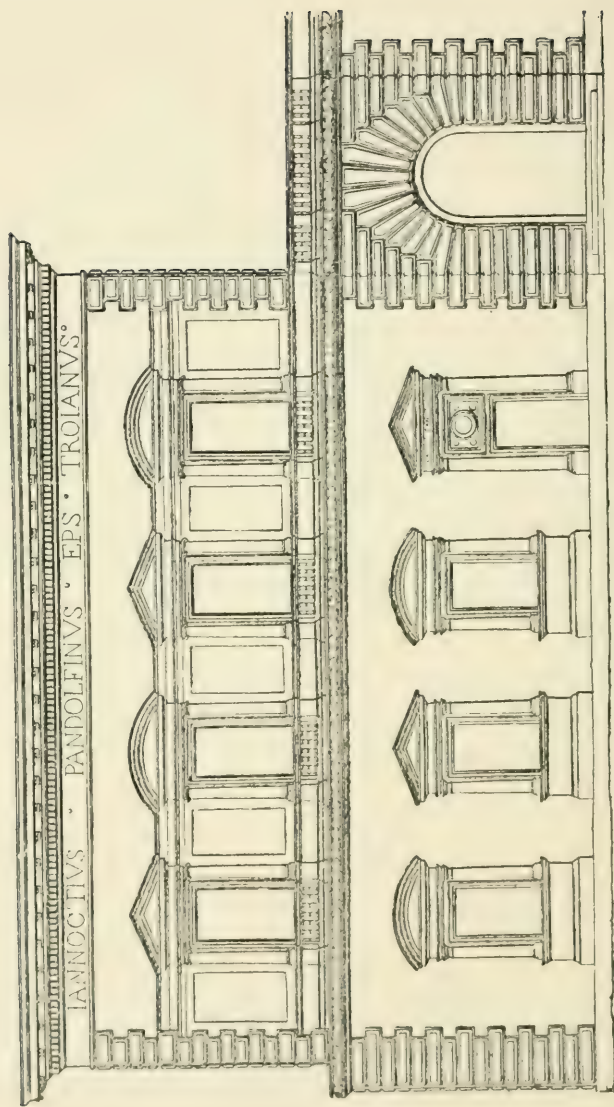


PLATE LVI.—Pandolfini Palace at Florence, designed by Raphael; begun 1520.

voids and solids, accentuation of cornices, and refinement of all detail, as in the villa of Pope Julius and the palace of Caprarola.

Palladio, like Vignola, gained considerable reputation by a treatise on architecture, but still more by his famous arrangement known as the "Palladian motive." Most of his works are to be found at Vicenza, where he was born, though Venice claimed many years of his life, through which she became richer by San Giorgio Maggiore and many other buildings.

Two other architects who aided the Renaissance were Scamozzi, who succeeded Palladio in popularity, and Sansovino, whose library is the masterpiece of the Venetian Renaissance. But neither were capable of taking the entire leadership, and from the death of Michael Angelo architecture gradually declined, until in the seventeenth century all simple elegance was abandoned and Italian art plunged into the extravagant excesses and vulgarity of detail which characterized the

Barocco or Jesuit Style.

During the early part of the seventeenth century, inspired by the example of Michael Angelo, domical churches appeared in many directions, which added splendour to the Italian towns; but toward the end the influence of Fontana, Maderno, Bernini, and Borromini, "father of modern abuses in architecture," made itself felt largely through the building activities of the Jesuits and popes.

Illogical construction, vulgar theatrical display of clouds, scrolls, lightning, rays of light, and canopies

in brass and stucco came into vogue, a popular example being the *baldacchino* of St. Peter's, which, one hundred feet high, rests upon columns weakened by twists, its canopy a heavy bronze mass unarchitectural in design. Indeed, the most unfortunate result of this style was its effect upon St. Peter's, for at the death of Vignola and Jacopa della Porta, before the style had acquired headway, Pope Paul V appointed Carlo Maderno to the architectural succession, who, changing the plan to the Latin cross, added a façade, which, save at a great distance, obliterates most of the dome; while on the inside stucco ornamentation painted to imitate marble shows to what the Barocco architects would descend to gratify their love of display.

Gilt, a thing to be used lightly for elegance or lavishly for splendour, not moderately for monotony, was always so used by Maderno as to give a cheap look to his buildings.

Bernini, who followed Maderno at St. Peter's, somewhat redeemed the style by his beautiful colonnade about the Piazza, but the majority of his work is not so happy.

In the Barberini palace Maderno and Bernini seized the opportunity to perpetuate the Barocco style on a grand scale; but here one sees the same turbulent unrest which characterized the ornament of less pretentious buildings, while quantities of statues in convulsed attitudes added to the evidence of Renaissance decline.

At Venice a like excess became prevalent, though the Pesaro palace has justly had admirers; but in the Zobenico and Gesuiti churches the "Queen of

the Adriatic" quite emulated the "Eternal City," until with her relapse in art the erstwhile hardy spirit of the Renaissance expired throughout Italy.

FRANCE.

The Renaissance under the Valois.

The same reason which brought about the Renaissance in Italy stimulated its evolution in France, to which may be added certain local influences.

The campaigns of Charles VIII and Louis XII brought a large number of Frenchmen in daily contact with Italian art; the classic backgrounds of Jean Fouquet and sculptures of Michel Colombe whispered the possibilities of the antique, and the more general use of gunpowder relieved the *châteaux* of their stern character, rendering an adoption of the lighter graceful forms of Italy a natural sequence.

Burgundy and Touraine each had its school of art; but with the death of Charles the Bold and the centralization of monarchical power the school of Dijon consolidated with that of Tours. Free intercourse and interchange of thought created a broader treatment, monasticism gave place to æstheticism, love of allegory to love of beauty for its own sake, until at the beginning of the sixteenth century, the cramping tyranny of the guilds being thrown off, the court became the nucleus of good taste round which gathered all the genius and cultivation of a new civilization.

Thus France under the Valois came into just the sort of receptive condition for great artistic changes, especially under Francis I, whose national love of art greatly contributed to hasten its expression.

He imported architects, sculptors, workers in silver and ceramics, and indeed experts of every

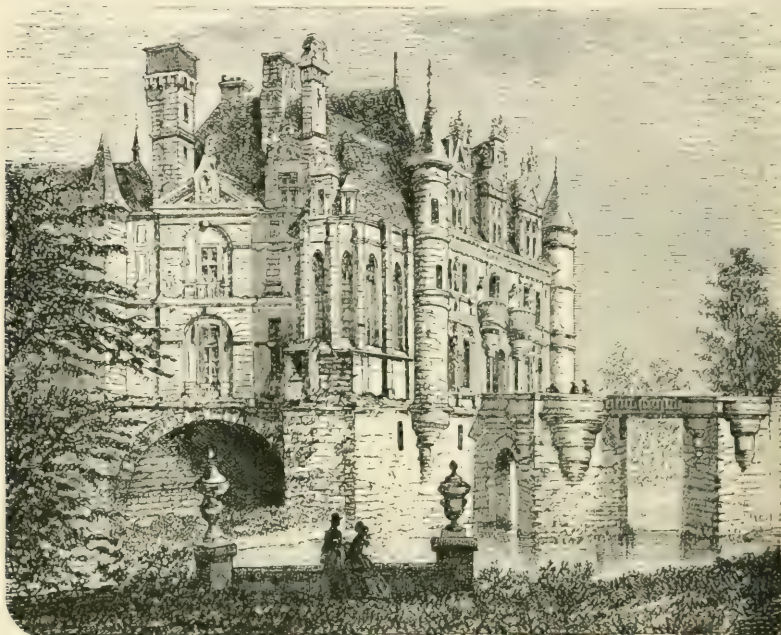


FIG. 160.—Chateau de Chenonceau.

kind, while such names as Primaticcio, Leonardo da Vinci, Benvenuto Cellini, Della Robbia, and Serlio prove him to have been a discriminating patron.

Collections of manuscripts, pictures, statuary, and precious stones became fashionable among the nobility in imitation of the royal Mæccenas, and æsthetic cultivation found quick response in the comprehensive study of architecture.

A wave of passionate enthusiasm for the subject

swept over Maine, Normandy, Brittany, Picardy, and Isle-de-France, and rolled its way along the valley of the Loire; the loopholes of fortresses expanded into windows to let in the light of the Renaissance, and the *chateaux* of Chenonceau (Fig. 160), Blois, and Azai-le-Rideau (Fig. 161) rose like petrified poetry to give it joyous utterance.

One exception marred consistency—namely, ecclesiastical building, where conservatism held its

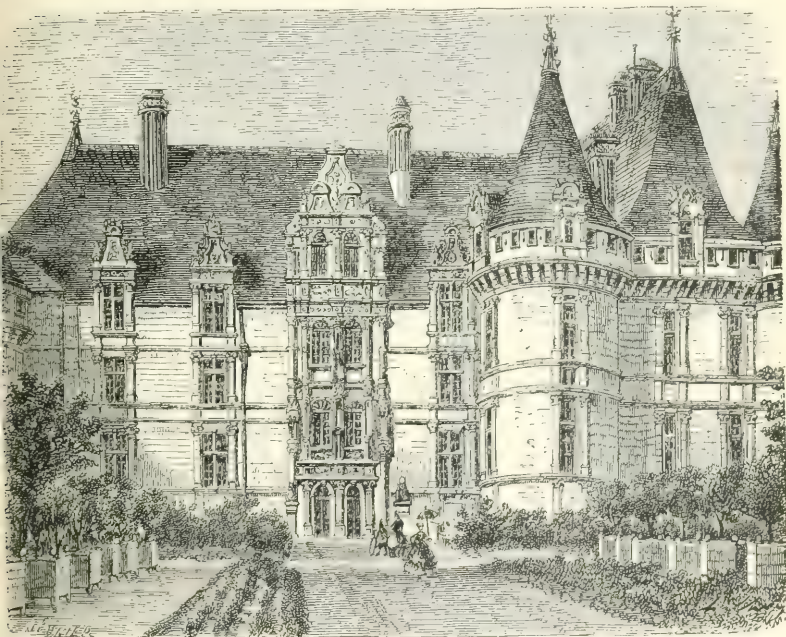


FIG. 161.—Chateau of Azai-le-Rideau.

own, and the Gothic remained the medium for the architectural translation of religious thought.

Not but what certain Renaissance churches existed, as St.-Michael's, at Dijon, and St.-Eustache, at Paris; but these were really "Gothic churches with Renaissance *appliqué*," and it is with a sense of relief that one turns to the more congenial analysis of secular buildings.

In these the general scheme of decoration presents about the same number of vertical lines as

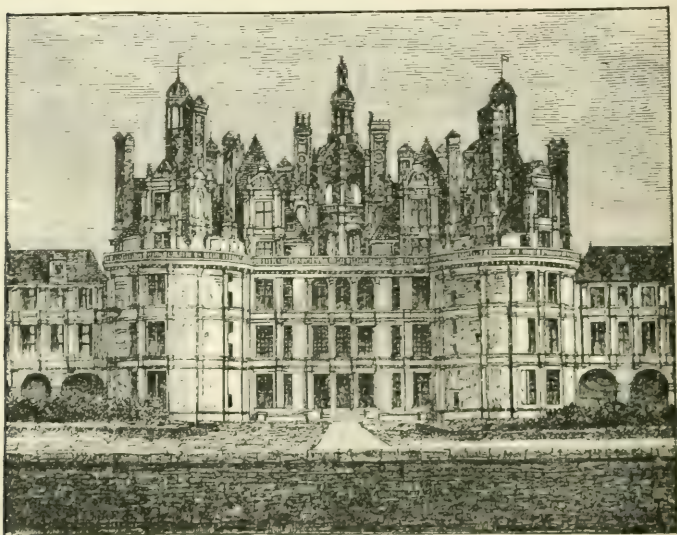


FIG. 162.—Chateau de Chambord.

horizontal, great care being taken to preserve voids over voids and solids over solids. Carving accentuated the stories, and when massed about openings was thrown into relief by large smooth wall spaces. Columns were rarer than in Italy, though circular and semi-elliptical arches were numerous. Lofty

dormers and chimneys, panelled and sculptured, rose from the roofs as in Chambord (Fig. 162) and Blois, and *rincaux* of graceful curve appear wherever appropriate.

The auxiliary arts contributed largely to the beauty of the interiors, the *orfèvrerie* of Cellini; the bronze candelabra, screens, helmets, and chests of the Della Robbias; the magnificently carved wainscots; tables and chairs of massive black oak decorated with metal—all were brought to great perfection and thrown into relief by the tapestries of Tours, Fontainebleau, and Bièvre; while beamed and coffered ceilings (painted or wrought with classical mouldings) disputed the prestige of beauty with the rest of the room.

Grace, harmony, flexibility, and lightness reigned everywhere, and all interior and exterior decoration was treated with a delicacy of detail and smallness of scale which lent charm and refinement to the whole composition.

Among the most important examples begun, built, or remodelled before the time of Henry II were the *châteaux* of Gaillon Fontainebleau, Madrid, Bury, Chateaudun, Blois, Chambord, and the portion of the present Louvre designed by Pierre Lescot; while the house of Francis I (Fig. 163), with its swift sure strokes of genius and delicate detail, has been held the gem of the time.

When Henry II came to the throne he displayed the same reverence for his father's taste in art as in affairs of the heart. And as he continued to be swayed by the same woman who ruled the paternal affections, so too was he stimulated and moved by

the same architectural interests which had lent glory and refinement to his father's reign.

Palaces begun under Francis I were completed under Henry II, and whatever was built new showed much the same feeling as those of the preceding reign.

One of the most important features was the starting of an order at the base of one story and terminat-

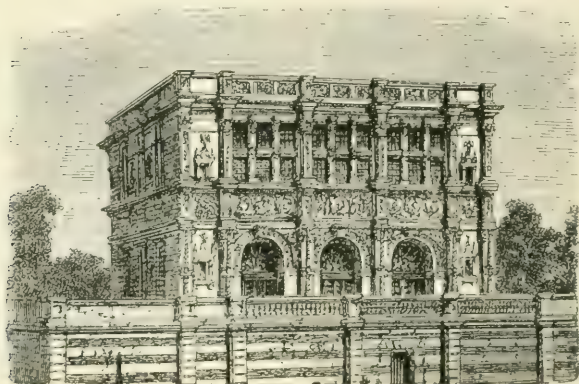


FIG. 163.—House of Francis I.

ing it in the middle of the next, while tall mullioned windows deliberately cut their way through the cornice of the building. But perhaps the most distinctive feature of the time (aside from a greater attention to classical precedent) was the universal evidence of artistic refinement and taste not only in the palaces of the nobles, but in the dwellings of the *bourgeoisie*. Nor can we be surprised when we see the mighty artists gathered about the king to fashion taste, and read such names as Philibert de L'Orme, Pierre Les-

cot, Jean Cousin, Germain Pilon, Jean Bullant, and Jean Goujon, the Phidias of France, whose work upon the Fountain of the Innocents alone would have made him famous.

Three great buildings detach themselves from this artistic background: the Louvre of Lescot (which, though begun under Francis I, belongs for the most part to the period of Henry II), the Chateau d'Ecouen, and the Chateau d'Anet. The most typical of these is the Chateau d'Anet (1548-1554), built for Diane de Poitiers by her royal lover.

It is more essentially French than any other building of the time, as Diane, in her antagonism to Catherine de Medici, resolved that it should be as little Italian as possible. Hence it was confided to the skill of Philibert de L'Orme for the architectural features, Jean Goujon for the carving and bas-reliefs, and Cousin de Sens for the stained glass, while Pilon and Palissy contributed their specialties, the only Italian feature being the tympanum over the entrance, which is the work of Benvenuto Cellini. Thus its illustration becomes a fair catalogue of Henry II Renaissance peculiarities. The increased importance given to the orders; the preference of statuary to mere carved and conventional decoration; the long, narrow mullioned windows, often with two transoms or cross-bars; the heavily panelled ceilings and doors adorned with heraldic and allegorical interlaces; the *grisaille* glass (invented by Cousin and often known under the title of "*grisaille d'Anet*"); and the floors, which, either marquetry or inlaid marble, reproduced the design of the ceiling in projection—all gave the mode to contemporaneous architects. While as re-

gards auxiliary arts, like iridescent *faïence* and *Oïron* ware (of which only forty pieces remain to the world, and those jealously guarded by royalty), the Chateau d'Anet preserved for some time a selfish monopoly.

Under the later Valois a number of buildings arose wearing Henry II characteristics, including the Tuileries, portions of the Louvre, and the Chateaux de Joigny and de Sully. But the religious wars precluded much advance, and under Henry III a general lull ensued, which continued until the accession of the Bourbons.

The Renaissance under the Bourbons.

Under Henry IV the Renaissance took on an official and formal appearance, which continued through the reign of Louis XIV.

Under "*le roi soleil*," majesty was aimed at more than anything else (Fig. 164). Mansard introduced his famous roof and erected the greatest dome in France over the *Invalides*, the "colossal orders" (or use of columns more than one story high) reigned supreme, and everything was sacrificed to pomp. Indeed Le Pautre tells us that though Versailles cost two hundred million dollars, no one except the king was decently lodged as regards comfort.

The exteriors were simple, but the interior decorations were very elegant, infinite care being taken in regard to the proportioning of detail to constructive features, while the ceilings, panelled with oval frames, as in the Pitti palace, at Florence, afforded men like Le Brun opportunity to make their names famous.

The most celebrated examples are the south colonnade of the Louvre, the rooms of state at Vaux built by Fouquet, and the Hôtels Mazarin and Lam-

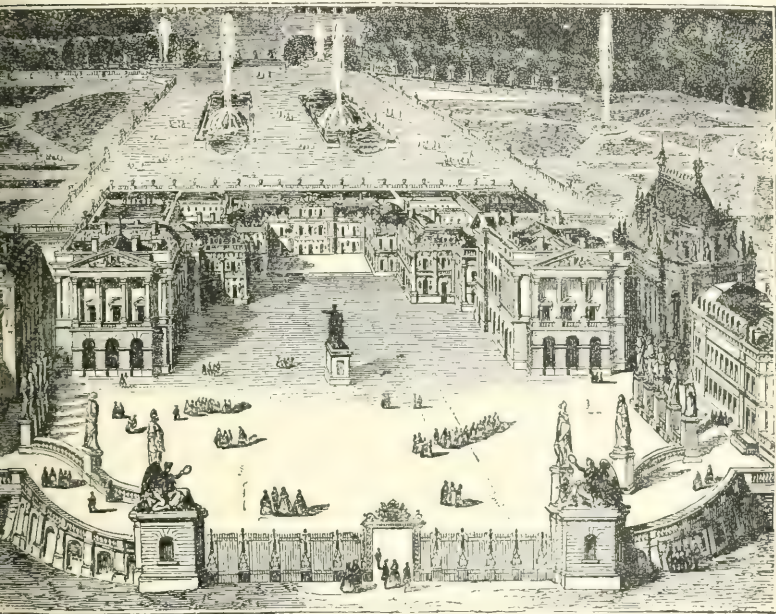


FIG. 164.—Versailles.

bert, where the imaginations of Bernini and Dr. Perrault were allowed to run riot.

But when the wits of the day used to laugh at Perrault and remark that "architecture must be indeed sick when it has to be confided to the care of a doctor," they were not so far wrong. For with the strain after pomp and circumstance began a decline in taste, and notwithstanding the perfection of aux-

iliary arts, like tapestry, *faïence*, and *Sèvres* (the last of which was invented at that time), art, especially architectural art, began a steady retrograde movement during a period which, intellectually, was one of the greatest that France has ever known, and thus we arrive at the period of "*Louis Quinze*," or

The Rococo.

This style was the French form of the Barocco (see page 389). It had little to do with the exterior of buildings, though occasionally it appears, as in the Cour de Fontaines, at the Sèvres factory. It was introduced into secular architecture by the influence of the Jesuit priests from Italy, whose churches were adorned with a curious commingling of cherubs, clouds, scrolls, shellwork, and gold.

Design became a matter of secondary consideration and all resource and energy was expended on execution. As in the days of *Le Grand Monarque* architecture had taken upon itself a majesty and dignity suitable to its great patron, so under Louis XV did it become a mirror of the artificiality and license of his court.

Constructive lines were concealed beneath masses of rock work and frivolous carving; keystones (about which poetical Orientals have woven proverbs) lost all dignity and importance by being overlaid with fretwork and eccentric ornamentation; the favourite outlines were the scroll and oval, and with the exception of using these more or less consistently throughout, the imagination of the decorator was allowed to run riot. And although it seems paradoxical to say that art must not be *artificial*, a glance at the paint-

ings of Boucher and Watteau and at Dresden china shepherdesses will explain the apparent contradiction.

Ceilings underwent a certain change at this time, being coved and the corners invariably cut off; furniture was of white and gold, and the door panels were carefully painted by the great artists of the day. But notwithstanding certain redeeming features as regards tone effects in the delicate shades of colour, and the fact that the rooms in Mme. de Pompadour's houses of Bellevue and Babiolle would certainly make attractive *bonbonnières*, the expression of "*C'est du Rococo*," with the meaning of "It is twaddle," passed from a slang phrase into an idiom of the language, and shows to some extent the value of this style in public opinion.

In Louis XVI's day a reaction set in, often known as the *Late Renaissance*, and though its life was short, like that of the king, it went to its death in a much more dignified way than the Rococo.

Dissimulation in regard to constructive lines ceased to exist, and they once more emerged from their concealment of carving. Colossal orders were used, and pilasters were generally fluted or panelled, while the delicate refinement of the sharply cut carving threw an air of simple elegance over such buildings as the Palais de Justice and the garden façade of the Palais-Royal at Paris.

But the days of the Renaissance were now numbered, and shortly after occurred the great social upheaval.

Men destroyed churches, palaces, and works of art instead of creating them, and when the people

had recovered from the imbecility of iconoclasm and had disgorged their venom sufficiently to turn again to the work of rendering the world more habitable, the classic revival had set in, and with the servile copying of imperfectly understood Greek models originality died.

CHAPTER XV: THE RENAISSANCE.—

Continued.

ENGLAND.

ELIZABETHAN has been the term agreed upon to denote the English period of transition from Gothic to Renaissance architecture. True, classic details began to make their appearance long before the accession of the "Virgin Queen," but the year 1558 of Elizabeth's accession has been found a convenient starting point on account of the meagreness of Renaissance buildings prior to that time.

Yet why this meagreness? And why did England hesitate to adopt what her neighbour across the channel had welcomed with such prompt eagerness?

The answer lies in the following facts:

The Renaissance was essentially a Latin movement, primarily asserting itself in Italy and France, while the English, being a Teutonic race and conservative, were less disposed to receive these Latin innovations with enthusiasm—still less at second hand from their natural enemies, the French.

Again, the Gothic had acquired a hold upon England, as only a style can in a country which has independently developed forms peculiar to itself, like the Tudor arch, panelling, and fan vaulting, while the

Reformation tended to ally England with Germany and the Low Countries rather than with France and Italy, where the Renaissance had its beginnings.

Hence the importations of Dutch artists like Holbein and Have became frequent in the reigns of Henry VIII and Elizabeth, giving popularity to those tall carved gables with balls and pinnacles so often miscalled Queen Anne, while the half-timbered houses of Ulm, Antwerp, and Bruges were copied rather than those of Rouen and Caen.

In the days of Henry VIII many great mansions still retained a certain feudal appearance, but in Elizabeth's time the development of domestic architecture received a tremendous impetus; a man's house became more his *home* than his *castle*, and symmetry began to make itself felt. But, in general, the Renaissance feeling showed itself principally in details, as doorways (witness the gateway of Caius College, by Theodore Have and Longleat), while in the building and enlargement of the old manor and baronial houses of Brereton, Knowle, Audley End, Hardwicke, and Wollaton the architects clung, in the main, to the picturesqueness of the Gothic, and, when utilizing the orders, displayed a fine scorn and independence of classic proportion.

But, notwithstanding that so little was understood of Italian architectural principles that in Burleigh House one sees Doric columns used for chimneys, there is a certain dignified grandeur, a combined strength and splendour about Elizabethan manor houses which inartistic things can not possess.

Thus the varied outline of the old brick gabled buildings with fantastic cresting, picturesquely

massed above staircased terraces enriched with balustrades and perforated parapet; the mullioned windows, huge and transomed, flashing light from diamond panes in deep embrasures set in massive walls; while arcades, turrets, oriels, and bays blend all in rich confusion, rousing the artistic sense at every devious turn.

Within was that indescribable something (found only among Anglo-Saxon races) which unites the expression of home with stateliness. The grand old Tudor hall was still preserved with panelled lofty wainscot, whose carved richness now and again betrayed the hand of some old master, like the one at Hardwicke House (1592), designed by Rubens.

Wide oaken staircases appeared, balustrades and newels fretted with carving; giant fireplaces; and ceilings of wood beamed and coffered, or plaster ribbed in elaborate design (recalling Moorish intricate interlacing), while cunningly wrought tapestries, blazonries, pictorial sculpture, nail heads, scroll work, and strapwork imported from Holland, all claim recognition with the harmonious insistence of *motifs* in Wagnerian song; and it is therefore with a sense almost of disappointment that one passes to the earlier stages of

The Jacobean Style.

During the time preceding the influence of Inigo Jones architecture, even in buildings like Hatfield, Coombe Abbey, and Holland House, showed (with few exceptions) a distinct retrograde movement, clinging to the faults of the Elizabethan without its dignity and repose. Details became more florid

and inappropriate, the *orders* more frequent; but they were used with less regard for classic feeling, being purely ornamental and of no constructive value. In Kirby House huge pilasters support an entablature proportioned for columns half the size, and at Bramshill the fashion was followed of making pilasters smaller at the bottom than at the top.

Entablatures were almost invariably broken at the columns, and gables were outlined in curves, while wood carving lost much of the elegance and refinement which had made the sixteenth-century interiors famous.

The year 1621, however, caused a revolution in style, and fairly launched the Renaissance upon its course on Palladian principles. For in that year Inigo Jones completed the Banqueting House at Whitehall, begun in 1619 for James I, which seemed to do more as a Renaissance educator than any previous building in Great Britain; while its simplicity and purity of style rendered it a valuable study to all subsequent architects.

Had the original scheme been carried out, Whitehall (with its seven courts and façades exceeding a thousand feet) would have eclipsed in size, and doubtless in magnificence, any other palace of modern Europe; and with Jones to design and James to pay, the idea would seem to have been feasible; but the penurious monarch did not fulfil *his* side of the contract, so that the Banqueting House and the drawing in the British Museum are all that remain to tell us of what it might have been.

Many other successful works were contributed by Inigo Jones to the English Renaissance, as

Thanet House (afterward called Shafetsbury House) "the Villa" at Chiswick, and Lord Radnor's house at Coleshill, all of which aided the cause.

The great Vandyke remarked concerning Jones's position among those of his own time that "in designing with his pen he was not equalled by any contemporary master for boldness of touch"; and Walpole speaks of him as "the greatest in his profession that has ever appeared in these kingdoms, and so great that in the Reign of Arts (Charles I) we scarcely know the name of another architect."

The Wren Period.

The civil wars and the Commonwealth put an abrupt stop to all art for a time, and after the death of Inigo Jones, in 1652, a lull succeeded in building, which remained unbroken until the time of Sir Christopher Wren, who after the Restoration practically monopolized architecture in England for fifty years. His first executed work was the Sheldonian Theatre, Oxford, begun in 1662, whose beauty was celebrated at the time in a Pindaric ode, and doubtless had a certain effect on Renaissance advance.

But the fire of 1666 was a more important factor, since it rendered the major part of London a blank whereon might be etched whatever design the fancy of the hour might dictate. Recognising this, a plan for rebuilding the city was submitted by Wren, in which broad streets crossed one another rectangularly at equal intervals, sites were arranged conveniently for churches, squares, and public buildings, and the principal streets made to terminate attractively in porticoes; but the greed of private owners

and the lack of public funds wrecked this plan, and the new city, though a Renaissance one, arose on pretty much the same lines as the old.

The most conspicuous feature was, of course, the Church of St. Paul (Plate LVII), begun by Wren, in 1675, on a site previously occupied by a Roman temple of Diana, St. Paul's Monastery, and the old cathedral successively, the greatest church ever built by a single individual, and from a Renaissance view second only to St. Peter's at Rome.

The plan was a Latin cross (500×250) surmounted by a great dome at the intersection, and roofed throughout with domical vaults.

The first portion of the church was the choir, completed for service in 1697, which Evelyn calls "a piece of architecture without reproach," and decoratively much enhanced by the carvings of Grinling Gibbons upon the stalls, and by the altar.

Externally St. Paul's has always mutely invited admiration rather than criticism; the peculiarly attractive manner in which the whole composition culminates pyramidally (Plate LVII), whatever the point of view, being especially noticeable. Also the two-story treatment, to obtain a greater appearance of size, and the successful proportion and outline of the towers and steeples.

Fifty other churches claim Wren as their architect. Among them St. Mary-le-Bow (whose tower and spire are held the most perfect in English Renaissance), St. Bride's, Fleet Street, and St. James's, Piccadilly, while the number of secular buildings conceived and executed by this great man might numerically form a good-sized city.

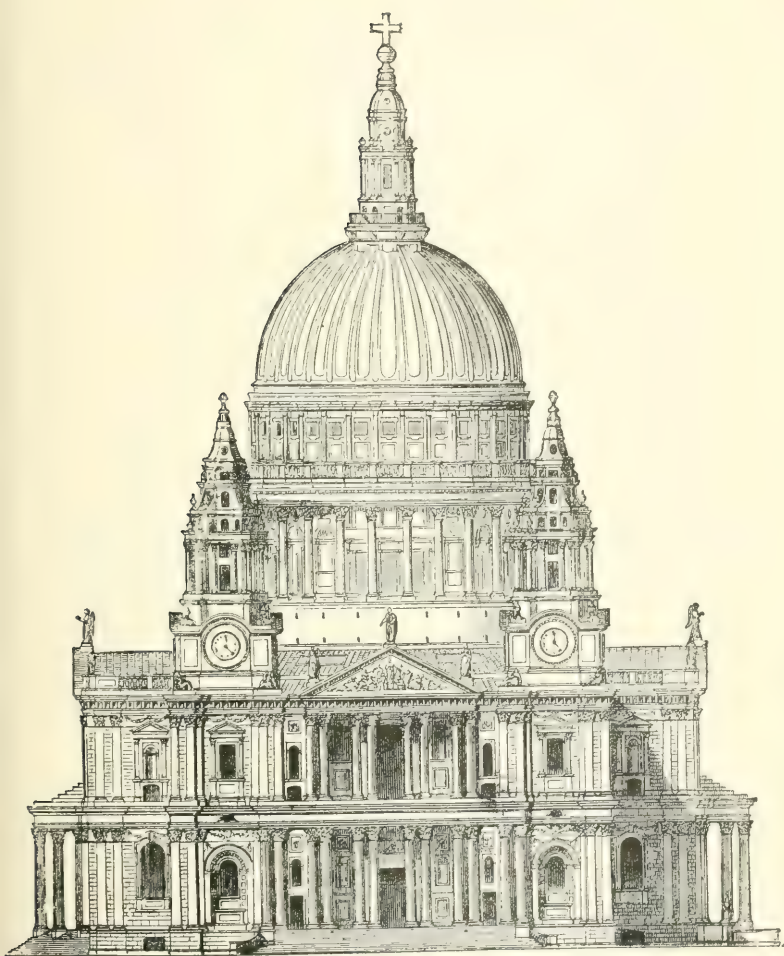


PLATE LVII.—St. Paul's Cathedral, London.

Of these may be cited the royal palace at Winchester, the Ashmolean Museum, Chelsea Hospital, portions of Hampton Court and Windsor, Marlborough House, halls of commerce to the number of seventy-nine, and Greenwich Hospital, the last being the most stupendous work of its kind in Great Britain.

The invention of the Renaissance spire has been attributed to Wren by his admirers, who acknowledge none of those in Spain as a prototype.

Whether they be right or wrong, certain it is that he introduced it into England, and by its introduction probably did more toward popularizing Italian architecture for churches than by any other act of his life.

At his death he was reverently laid away, like Brunelleschi, beneath the greatest monument of his genius, while at his funeral honours almost royal were paid him; but these are as nothing to what posterity has since accorded, and the simple sentence on his tomb of "*Si monumentum requiris, circumspice!*" tells his story more completely than the most elaborate rhetoric.

The Eighteenth Century.

During the early years of the eighteenth century one name especially detaches itself from the obscurity which Sir Christopher Wren cast over all his contemporary *confrères*—namely, Sir John Vanbrugh.

Bold, original, determined, Vanbrugh instilled a principle hitherto unknown to the Renaissance—namely, that of uniting the monumental splendour of the classic with the picturesqueness of the Gothic

minus the hybrid qualities of transitional styles, while underlying all (according to Fergusson) ran "a lofty aspiration after grandeur and eternity."

In his endeavour for the latter quality, a massiveness resulted, which caused much witty comment at the time; thus Walpole wrote:

Lie heavy on him, earth, for he
Laid many a heavy load on thee;

while Pope and Swift both amused themselves and others at his expense. Posterity, however, with

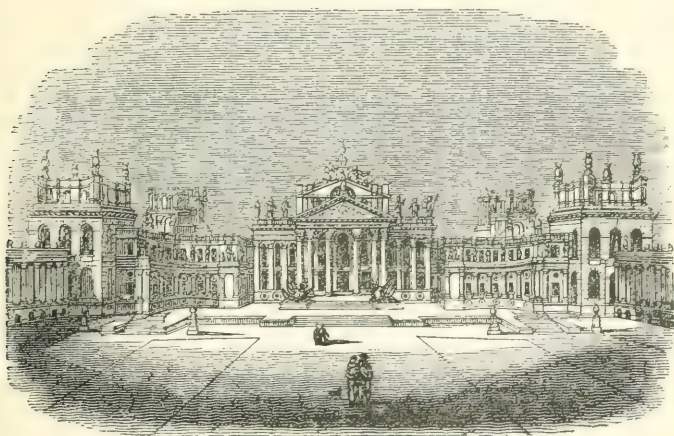


FIG. 165.—Blenheim House, Woodstock.

but few exceptions, has been apologizing ever since to save its reputation as a critic.

Blenheim (Fig. 165) was to Vanbrugh what the *campanile* was to Giotto, St. Peter's to Bramante, St. Paul's to Wren. If not his best, it is at least his best-known work.

Continental in magnitude, monumental in character, it rises (a worthy tribute of a nation to the hero of Ramilies, Oudenard, Blenheim, and Malplaquet) in the midst of a park where tradition tells us once dwelt fair Rosamond and her royal lover. The palace consists mainly of a great central feature, composed of two vestibules entered through Corinthian porticoes, flanked by low buildings, these inclose an imposing area cut off by quadrant colonnades and form a striking approach to the central mass.

Three garden fronts, bold in treatment without coarseness, display the graceful sky line characteristic of Vanbrugh, while the general effect is still further enhanced by the undulating lawns of the great park, twelve miles in circumference.

The principal room of the interior is the library, which extends the entire length of one wing, but where also there is an unexpected carelessness in detail. As a whole, however, the conception is one of great dignity, and quite worthy of the opinion of Sir Uvedale Price, that the architect "formed in a style truly his own, and in a well-combined whole, a mansion worthy of a great prince and warrior."

During the latter part of the reign of George II Kent (architect of the Treasury Buildings and Horse Guards) and his patron and partner, the Earl of Burlington, set the fashion to English art.

Of Burlington it is said that he always evinced a profound contempt for the architectural dithyrambs of Sir John Vanbrugh, but the lack of originality in Petersham and the Duke of Richmond's house at Whitehall leaves little doubt in the minds of posterity as to which of the two names will live the longer;

while his sacrifice of practical comfort to architectural effect in General Wade's house, Burlington Street (which provoked Chesterfield to remark that the general had better take a house over the way and look at it), renders the opinion tenable that the earl was more popular than practical.

The best work of either Burlington or Kent, however, was that which they performed together, especially Burlington House or the Royal Academy, the beauty of whose façade makes up for all individual shortcomings, and doubtless did much toward keeping the Louis Quinze style from gaining headway in England. In this building at least it may be truly said that both architects displayed that instinctive love of truth, which makes men do the right thing in the right way without extravagance, and justified the words of their poet friend, that

“ Something there is more needful than expense,
And something previous ev'n to taste—'tis sense ! ”

With the accession of George III came the elevation of Sir William Chambers to distinction, who may justly be called the Vignola of England, and, like the illustrious Italian, wrote a text-book formulating the rules of the Renaissance for the sake of students.

All his work shows the same scrupulous attention to proportion and correctness of technique which makes the architectural grammarian, without which all flights of genius are liable to become futile ; but one must acknowledge that it lacks the exalted purity of Inigo Jones almost as much as the warmth, life, and bold originality of Vanbrugh.

The next architects who influenced the style were the two Dances and the Adam brothers. The former built the Mansion House and Newgate in a peculiarly massive style; while the latter gained celebrity by the introduction of a certain severe tone into architecture (easily traceable to the Louis Seize of France), the use of stucco imitating stone, and a book published by Robert Adam on the Ruins of Spalato.

Their work is characterized externally by large windows without dressings, the amalgamation of a number of separate residences into one monumental building, and internally by attention to plaster decoration, as seen in the houses of Hanover Square.

The Adelphi Theatre, which derives its name from the circumstance that all four brothers built it, is an example of their best work; but all the Adam architecture is essentially prosaic, and reveals none of those qualities which inspire the thought of "poetry in stone." Far better is it, however, than the extravagant conceits of the Barocco or Rococo, which found favour in the eyes of Italy and France, when the light of Renaissance began its declination.

GERMANY.

Germany, like England, was slow to welcome the innovations of the Renaissance. The struggles of the Reformation, the Thirty Years' War, and German mysticism have all been variously stated as the causes of this unreceptive condition, and indeed *were* undoubtedly causally connected therewith, but a stronger factor was the *natural conservatism of the race*.

Like England under the Tudors, Germany had

developed an architecture peculiarly adapted to her own needs, and in consequence felt little or no desire for the new style generated by Italy. Furthermore, Germany had no supreme ruler like Francis I to introduce or compel a new school of art; the whole country was a mosaic of petty kingdoms and principalities, each marked with that hereditary local independence which had characterized the nation since the days of Tacitus.

Primarily, Italian details manifested themselves chiefly in *portions* of buildings, as doorways, pulpits, chapels, and tombs, and derived much of the spirit of their treatment from the sculptures and paintings of Peter Vischer and Albrecht Dürer. But it was not until 1530 that certain courts began to exhibit any rivalry in castle or mansion building.

Gothic features rather predominated in these, especially in the north, and lofty roofs with gables of picturesque outline, round towers, and circular stairways remained as popular as ever; but in the portals, occasional *loggias*, and courts, the Renaissance found a permanent welcome, being characterized by freedom in the treatment of *orders*, the use of engaged columns partially fluted, frequent reliefs, lofty entablatures, and a profusion of bold and rather coarse sculpture, all of which may be seen in the Schlösse at Torgau, Stuttgart, Schwerin, Offenbach, and Weimar, though the latter, built by Van Aken and Von Lira, displays an elegance and Genoese delicacy in its relief work suggestive of the *cinque cento* rather than of early German work.

The most successful of sixteenth-century castles was the Otto Heinrichsbau, of Heidelberg Schloss

(1556-1559), which certain historians have attributed to the pencil of Michael Angelo; but there is little or nothing to justify this hypothesis, especially as the composition is distinctly more French than Italian, and recalls Philibert de L'Orme and Pierre Lescot rather than any Roman or Florentine master, while the *caryatides* might easily have been chiselled by a pupil of Jean Goujon.

As a whole it is characterized by great majesty and rude power, which its situation dominating the valley of the Necker further increases, while the remarkable richness of its members is thrown into fine relief by the sullen vigour and powerful simplicity in the basement.

Palaces of this description produced a strong effect upon secular architecture throughout the land, since they instilled a spirit of emulation among the wealthy burgher classes which found outlet in the erection and embellishment of *Rathausen*, or town halls. These showed, as a rule, more thought in composition than the palaces themselves. Thus the *Rathausen* at Lengo, Altenburg, Görlitz, Lubeck, Strasburg, and Posen (built between 1552 and 1590), as well as some of the old German and Swiss inns, all show the increasing vitality of the Renaissance, but to ecclesiastical architecture the sixteenth century paid little heed.

The quadrangles in the Villa at Gratz and in the Castle of Schlaburg are noted as being among the first to grasp thoroughly the principles as well as the forms of Italian art; but there is an excess of ornamentation which is disappointing to a lover of *cinquecento* and *scicento* work, and at the same time re-

markedly characteristic of German feeling with regard to plastic art.

Sgraffito work, or arabesques traced in the plaster when wet, became popular at Ulm, Steyer, and some smaller towns, while in Mühlhausen, Schaffhausen, and Nürnberg colour was applied to exteriors of houses in the form of fresco. Oxidation, however, has interfered so seriously with the effect of the latter that it is difficult to form an opinion as to the true value of German outdoor artists or to what extent they enhanced the buildings of their time.

Early in the seventeenth century occur a few Renaissance examples, from which one might infer that the style was about to take a turn toward a stricter classical purity. Thus the Friedrichsbau of Heidelberg Castle (begun by Salomon de Caux in 1601) shows a tone of much greater severity than its sister palace, and Marini's Castle Walstein (1629) is a fairly good example of true Renaissance work. But unfortunately this slight tendency toward classicism coincided with the first inception of the Borromini influence. At the middle of the century the Barocco examples increased (the publications of Dietterlein contributing toward their popularity), while a few years later one finds nearly all Germany prostrated before the vulgar display and extravagant conceits of Fontana, Guarini, and Martinelli, who were invited to make the country their home.

The Zwinger Palace, at Dresden, built for the Elector Augustus II, shows of what excess this eccentricity is capable.

More within the range of criticism is the Japanese Palace, also begun for the Elector by Count Flem-

ming (the Baron Haussmann of Dresden), with its two-story pilasters, high pavilions, agreeable sky lines, and copper roof of a brilliant green, the result of oxidation. This building is dignified and vigorous, reposes securely on a strong rusticated base, and gives an effect of stable equilibrium which is often lacking in contemporary and later work; for in Sans Souci and Charlottenburg, by Von Knöbelndorf (chief architect of Frederick the Great), one misses this quality of inertia notwithstanding a certain severity in the constructive features.

The Brandenburg Gate stands as the last secular structure of importance built in the Renaissance period and links the latter to the Greek revival. Mr. Fergusson gives it a rank second only to the Arc de l'Étoile among modern triumphal arches, but the fact that it is copied from the Propylæa at Athens detracts considerably from its value.

In comparing the German Renaissance with that of other countries, one can not but be surprised at the total lack of genuine artistic insight and the architectural apathy displayed, especially from 1700 to 1800, for the intellectual breadth and activity of a century that could produce Haller, Klopstock, Lessing, Winkelmann, Kant, Goethe, and Schiller ought certainly to have brought forth greater building artists than Fisher, Behr, and Von Knöbelndorf.

However, the Greek revival has proved that under proper stimuli a reaction is possible, and the gradual improvement in modern German architecture has induced many to believe that the present is only the twilight of a great architectural day of triumph yet to dawn.

SPAIN.

During the early part of the fifteenth century Spain was in a peculiarly unfavourable condition for architectural development. Intellectual and commercial activity were at a very low ebb on account of the internal political troubles and the Turkish occupation of the Levant.

But the marriage of Ferdinand and Isabella, in 1469, and the subsequent union of Aragon and Castile, in 1474, reversed all these conditions. The cutting off of the old trading routes to the East generated an unprecedented activity in maritime discovery in the West, while the fall of Granada, in 1492, and the fusion of all the Spanish states into an ecclesiastical and political union by Cardinal Ximenez gave a unity to the whole Iberian peninsula, which made possible the conquest of Naples under Gonzalvo de Cordova.

By this conquest Spain came into more intimate connection with Italy, her literature, and her art. The sonnets of Petrarch found an echo in those of Juan Almaguer and Garcilasso de la Vega; the love of classic poetry, quickly winning its way, soon induced a like admiration for the sister arts, especially the most necessary one; and so begins the true history of the Spanish Renaissance in architecture.

The earliest manifestations of the new style are to be found in the alterations of old buildings, doorways, and other minor structures, as in San Nicholas de la Villa, the Puerta de la Pellegeria, and staircase of Burgos Cathedral, by Diego de Siloe; but the tendency to cling to the Gothic remained almost, if

not quite, as strong as in England and Germany, and it constantly asserted itself in the work of all the early sixteenth-century architects of the peninsula.

The year 1510, however, is the date usually agreed upon as timidly ushering in the first period of the Spanish Renaissance, a style very analogous in character to that of France under Francis I. Its delicacy of detail and exuberance of ornament earned for it the name of

The Plateresco or Silversmith's Style.

This style extended over a period of forty-five years. Though it lacked much of the academic purity of Italy and the refinement of France, it was signalized by great originality, vigour of design, and richness of detail; and though this richness may be said at times to have fairly smothered the individual members (especially windows and doors), it was thrown into beautiful relief by great bare wall spaces, converting what might otherwise have been called tawdriness into artistic elegance.

The love of pinnacles, gargoyles, and Gothic ornamental features proved also too strong to be lightly relinquished; but throughout their work the Plateresco architects showed great architectural insight by always aiming at a powerful effect of solidity in the base, as in the University of Alcala, by Pedro Gumiel, which, with its open arcaded story at the top, stands as a pleasing type of the period.

At the same time there flourished another style of architecture, known as Mudejar (a mixture of Classic and Moorish elements), which obtained a certain popularity, especially at Seville, where it may be seen

in the Alcazar and Casa Pilatos ; but, oddly enough, this style had no influence whatever upon the Renaissance, and pursued its own way quite independently.

The *patio* being a household necessity in Spain, courtyards with cloistered arcades became universally fashionable, bracket capitals being used to afford greater span and give the lightness suited to interior work.

The best example of the kind is the archiepiscopal palace at Alcala ; a less pure but more ambitious one is the Monastery of Lupiana, while the court in the palace of the Infanta at Saragossa (Plate LVIII) illustrates how a good thing may be abused. For here, though the effect is light, the expression is obtained by the use of spindle-like baluster columns in the upper arcade, while the carving, though good, incrusts every available spot to an extent that would appear extravagant in a wedding cake. There being no contrast, there is consequently no elegance.

Architecture of this sort quickly resulted in a reaction, which, after the abdication of Charles V, took shape and materialized under the name of

The Griego-Romano.

This style has been generally characterized as a "cold, unpoetical, architectural treatment, corresponding to the works of Vignola, Palladio, and San Michele, but without their refinement"; and it is certainly true that its peculiarity is the employment of Roman *orders* in rather a dry and prosaic fashion.

To a pupil of Michael Angelo—Juan Baptista—do we owe its first real introduction in a pure form, a thing exemplified most intelligently in the Palace of

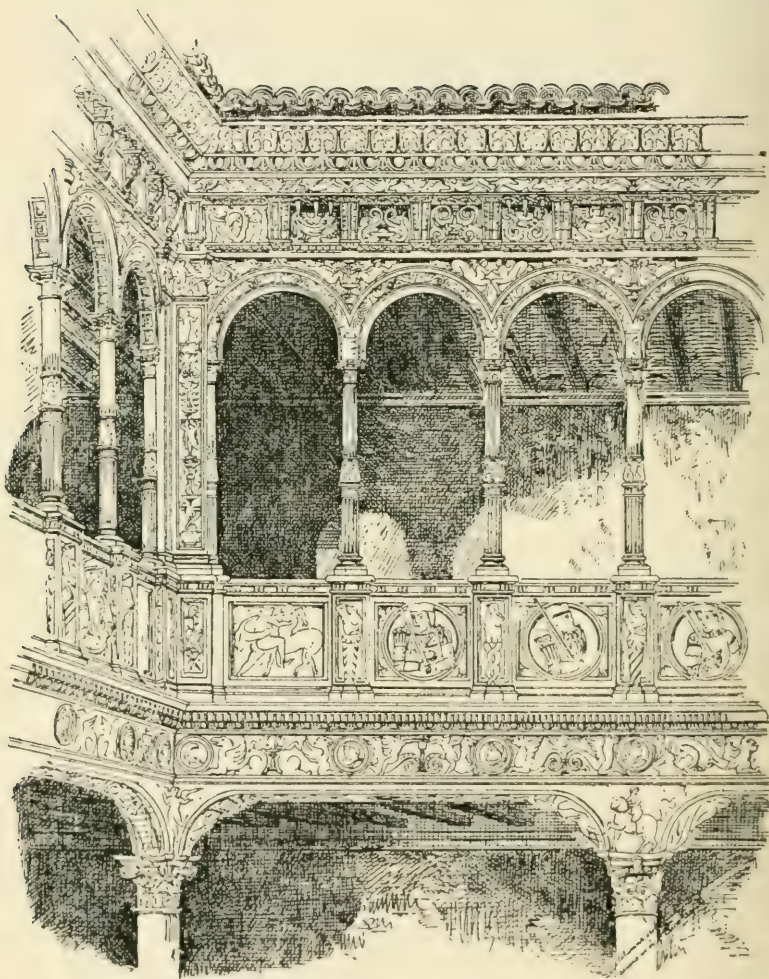


PLATE LVIII.—Patio Casa de la Infanta, Saragossa.

the Escorial, begun in 1563 at the order of Philip II, to fulfil a vow made at the battle of St. Quentin. At the death of Baptista, in 1567, his pupil Juan de Herrera succeeded to the post of chief architect; and though it is difficult to distinguish how much of the design is due to the master and how much to the pupil, it is certain that the execution and building thereof belong to Herrera.

Palustre, in speaking of the Escorial, designates it as "the most monotonous edifice in existence," but one can not help feeling that this is the result either of superficial observation or a tendency to judge of the whole by the exterior. For, truly, the façade presents a monotonously honeycombed appearance; but, having once entered the vast pile with its fifteen courts, porticoes, and galleries, containing upward of eighty fountains; its superb *atrium*, flanked by a college and monastery; its gorgeous state apartments; and, above all, stupendously magnificent church—one is forced to acknowledge that the building is in many ways one of the most deservedly admired of European palaces.

Among the important attributes of its composition may be cited beauty of proportion, symmetry and convenience of plan, dignity of interior approach, picturesqueness of sky line, and success of climax formed by the dome and towers of the church, which latter frowns down in gloomy majesty over the whole mass, responsive in feeling to that religion which Torquemada rendered awful. Yet the true significance of the Escorial is not felt until one compares it, as regards intention, with some other great palace, like Versailles. In it one reads no trace of the

grown-up toy, conceived to beguile the weary hours or satiety of a monarch, but, as Mr. Fergusson calls it, "the splendid abode of a great but gloomy despotism," a home for the Inquisition. It is this conscientious adherence to purpose and truth which gives it its greatest artistic value.

During the latter part of the sixteenth and first half of the seventeenth centuries, the Griego-Romano showed its popularity everywhere, the palace of Aranjuez near Madrid and the cathedral at Valladolid adding further laurels to Herrera, while many buildings by Rodrigo Gil and Berruguete contributed their classic influence. One of the most successful works of the period, though early, was the addition to the Giralda tower (Plate LIX).

The history of this building commences with the eleventh century, when it was erected by the Moor, El Gibir; it next figures as one of the conditions at the surrender of Seville in 1248 (the stipulation being that the Giralda should never be destroyed); in 1395 it narrowly escaped destruction from an earthquake, and for a time was apparently forgot; but in the year 1568 it again came into prominence from the commission received by Fernan Rinz to restore and increase its height a hundred feet, an order which was executed with the utmost ingenuity. For, though treated as a steeple, and uncompromisingly Renaissance, it has all the airy lightness of a kiosque, and the architect has caught much of the Moorish feeling in the base.

It is an open question, however, whether a Moorish spire would not have been more appropriate, as hinted before.

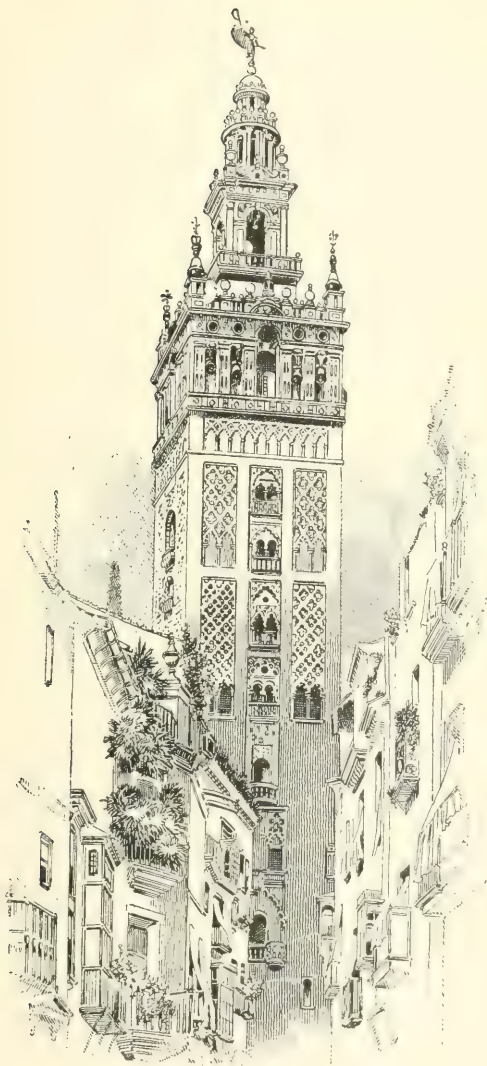


PLATE LIX.—The Giralda, Seville.

The Churrigueresco.

This style, which was introduced into Spain by Churriguera about the year 1650, and rioted all over the country for the space of a hundred years, far surpassed the wildest conceits of either Borromini or Fontana. Classical treatment became a mere semblance of its former self, and the Spanish love for sumptuous ornamentation (which, held in proper check, had done so much for the Plateresco) began to violate the simplest canons of art.

Detail of every sort was outrageously managed, and all the features so trespassed upon one another that it became impossible to distinguish anything like a keynote or motive in even the best designs. The façade of the Hospicio at Madrid and the archbishop's palace at Seville both show the peculiarities of this Spanish kind of Rococo, while the *transparente* back of the altar in the Cathedral of Toledo (designed in the same period by Narcisso Tome) has been fittingly described by Ford as "a fricassee of marble" in the midst of which flounders San Rafael, with legs in air, in a pardonable effort at equilibrium.

But the towers of this period do much to make one forget the frivolity of the Churrigueresque style; and as the seventeenth and eighteenth centuries were characterized by extreme activity in church building not only in Spain, but in all her colonies as well, the opportunities for this form of structure were fortunately increased. Good examples of these towers and steeples are to be found attached to the cathedrals of Murcia, Malaga, and Santiago; and, indeed, to almost every ecclesiastical building of the period,

the majority being characterized by solidity in the lower stages and graceful lightness in the upper, while domes and lanterns form a favourite treatment at the peaks, recalling the best work of Sir Christopher Wren.

After 1750 Spanish architectural advancement began gradually to lessen in all directions, until after a time it ceased altogether.

Internal political troubles have been advanced as the cause of this, and undoubtedly *did* exercise a strong influence, but the fact that after they ceased the same apathy continued proves that this can not have been the only cause ; while the present lack of industrial activity precludes much hope that any revival in art may soon occur.

However, none can read the future and hope is free to all ; and the literary revival in Catalonia may, as has often occurred previously, be the forerunner of a renewed activity in art, which, gradually communicating its enthusiasm to the nation, shall yet convert the *chateaux en Espagne* of the dreamer into buildings of a more substantial nature.

CHAPTER XVI: AMERICAN ARCHITECTURE.

THE customary habit of regarding America as new and inartistic frequently makes us forget how old we *are*, and how artistic we once *were*. But when one recalls that Crailo Manor was built before the coronation of Louis XIV, before the execution of Charles I, and before Peter the Great was born, we can scarcely consider ourselves in the light of a novelty; while a glance at the so-called *colonial* architecture of the seventeenth, eighteenth, and the first score years of the nineteenth centuries disqualifies the assumption that we have always frowned upon art.

Thus the old manor houses along the Hudson and the James, the halls of Harvard College, the early churches of Maryland, and the city halls of New York and Philadelphia all show a purity of style to satisfy the most exacting adherents of Sir Christopher Wren. Indeed the great Wren himself is said to have designed the first buildings of William and Mary College and the courthouse of Williamsburg, and Peter Harrison, the assistant of Sir John Vanbrugh, composed the market at Newport; while Thomas Jefferson, the versatile, sketched and built

the University of Virginia in a manner comparable to the Rotunda Capra, at Vicenza.

True, there was much which did not claim to be architecture at all, as the log cabins and forts of the earliest settlers, but when a lull in fighting permitted, swiftly there awakened a *naïve*, tasteful style, "with a quaintly free classicism, an ingenious use of wood, and a grace of carving and detail" like that of Grecian relics saved through the wreck and ruin of ages, and these speedily spread and multiplied until they covered the eastern slope of the Appalachian chain, extending south as far as the Spanish claims.

Unfortunately, however, the early Americans did not follow the method of the early Greeks in evolving a style; for, while the Dorian builders of Argolis twisted the overhanging rafters into *mutules*, chiselled the beam ends into *triglyphs*, and passed whatever lay at hand through the alembic of taste and originality, the colonists contented themselves primarily with imitating what they had learned to love in the motherland, and in so doing wove little anew, unless we consider certain slight touches of wistful sentiment.

The works of Wren, Hawksmoor, Gibbs, Sir William Chambers, and the Adam brothers influenced the architecture most directly; for, while the Dutch along the Hudson, the French in Louisiana, Canada, and the Carolinas, and the Spanish in Florida, New Mexico, and California all interpolated something native and local into their work, it was the English Renaissance which essentially ruled all, and in its precise adherence to the Roman orders induced a formal result.

In order to avoid a coarseness sequent on the ini-

tation of stone in wood the columns were made more attenuated and the carvings more delicate in relief, and thus arose a certain *differentiation* which developed into the so-called colonial style.

Primarily, however, colonial builders were not even imitative, but simply utilitarian, as may be seen in "the Flaats," where Colonel Peter Schuyler, the first Mayor of Albany, was born, a brick house of two stories, shaped like a cross, and partially covered with a gambrel roof, the only decorative features on the exterior being a Dutch door with a ponderous brass knocker and bits of ornamental wrought iron in the form of anchors, the date, etc. Inside, however, some artistic effort was shown in the beautifully carved furniture of Holland make and the portraits of stolid gentlemen and kind-eyed old ladies in caps and Flemish ruffs; but, as a rule, simplicity and utility ruled. "Here gallant Lord Howe, Abercrombie, and other gay officers were entertained on their way to defeat at Ticonderoga, and here the young lord returned to die. Before it for seventy years marched the armies of the French, and between it and the river occurred one of the bloodiest battles between the Mohawks and Mohegans." But from an architectural standpoint the building is only interesting as a primitive type, an amœba of colonial civilization.

In the more peaceful districts architecture sturdily improved, yet displayed no startling individuality. Most of the houses were square and gambrel-roofed, though hipped roofs found favour in Virginia. Pediments, or large shells, usually bent above pilaster-flanked doorways, cool verandas passed along one

side, and prominent porches shaded the principal entrances. When these last named were framed in glass, long, narrow side lights and transoms veiled with delicate traceries were used. "But no glass found its way into New England before 1700, the lights being of mica, oiled paper, or horn."

White columns twined with pink roses, as in the pictures of Alma-Tadema, often struck a note of



FIG. 166.—Vlie House.

Hellenic beauty, while tendrils of natural honeysuckle or Virginia creeper wove intricate interlaces over the humblest dwellings. "Palladian motives" appear everywhere, and roofs were rimmed with wooden balustrades (Fig. 166).

The materials varied according to location. New England employed wood almost exclusively; the South, brick and stone; while the Middle Atlantic

States used all the materials of the others and stucco, with roofs of tin, tile, slate, wood, copper, and lead. This versatility was probably due to the cosmopolitan character of that section of the country, for before *Nieuw Amsterdam* became New York eighteen separate languages were spoken among its inhabitants, which, however, only numbered fifteen hundred, all told.

Imported Holland bricks were preferred as a rule to the domestic article, and with reason; for during the destruction of the old Columbia College buildings it was found necessary to employ gunpowder in order to disintegrate the foundations, which were composed of old Dutch brick.

Crailo Manor before its demolition, in 1893, was said to be the oldest dwelling in the United States, and certainly it *was* the oldest claiming any architectural value. Here Dr. Stackpole, the British surgeon, composed Yankee Doodle, in derision of the American troops as they straggled into camp in motley costumes; and here the Continental army held cantonment in 1775 on the march to Ticonderoga.

Tradition asserts that it was erected in 1642 by the agents of Killian Van Rensselaer, a rich pearl merchant of Amsterdam, who in 1629 had purchased a tract of land from the Indians twenty-four miles long and forty-eight miles broad, extending on both banks of the Hudson.

Old Killian never visited this country, though his son Jan Baptiste did so on his appointment as director in 1652, and built for himself a residence under the guns of Fort Orange.

Much controversy has arisen concerning the date of Crailo (1642) on account of a description in Albany, written by a French missionary in 1656, which states that there were no buildings of masonry in the vicinity at the time. But this does not alter the value of Crailo as a complete type and substantial example of early colonial work.

It was composed of cream-coloured brick trimmed with white, rose two stories and an attic into the

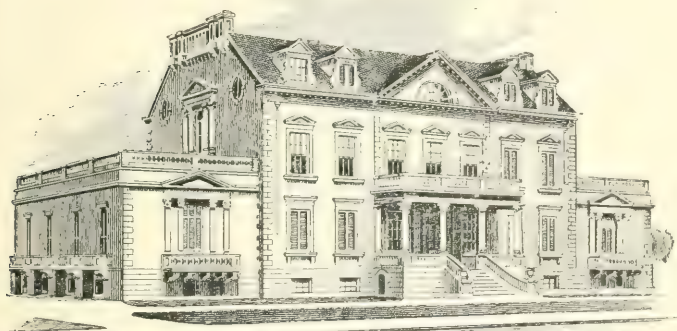


FIG. 167.—Van Rensselaer Manor House, remodelled by Upjohn.

air, and was tied together with beams of unusual thickness (16×16 inches). Stone loopholes originally commanded the approaches, and all the rooms connected with one another, often by means of closets, to increase the difficulty of capture; but otherwise the characteristics enumerated above prevailed.

In general terms, colonial interiors contained

spacious halls with wainscots often panelled and reaching to the ceiling; doorways in every variety of the Renaissance, with plain, broken, or carved pediments; mantels, resting on slender columns or pilasters of great refinement and elegance; and scenic paper or tapestries on the walls; while festoons of forget-me-nots or other delicate flowery

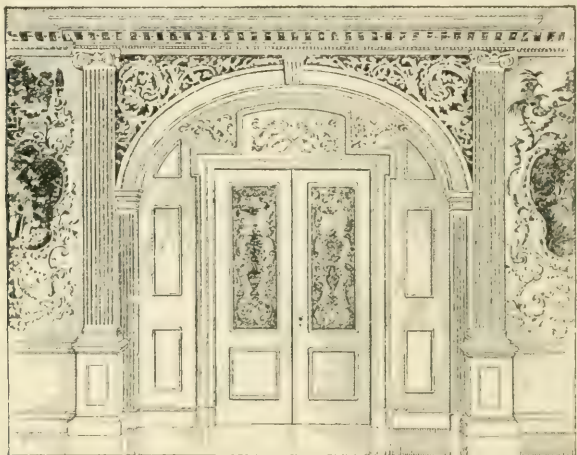


FIG. 168.—Rococo Doorway in Van Rensselaer Manor House.

forms caught up with ribbons at the ends were frequently carved in low relief.

Balusters were usually of three kinds, one of each to every step, and moulded into twisted spindles; while other favourite features were richly polished mahogany doors framed in painted pine, tiled fireplaces, egg-and-dart and water-lily mouldings and plaster panels modelled with wreaths, garlands, and musical instruments.

All these appear in the manor house known as Patroon's or Van Rensselaer Manor, remodelled by Upjohn in 1840-'43 (Fig. 167), and there also may be seen the effect of the Rococo as it appeared in the houses of those who could afford its unfortunate elaboration (Fig. 168).

The major part of the building was more pleasing, and Longfellow has immortalized it in the following lines :

It was a pleasant mansion, an abode
Near and yet hidden by the great highroad,
Sequestered among trees, a noble pile,
Baronial and colonial in its style :
Gables and dormer windows everywhere,
And stacks of chimneys rising high in air,
Pandean pipes, on which all the winds that blew
Made mournful music the whole winter through.
Within unwonted splendour met the eye,
Panels, and floors of oak, and tapestry :
Carved chimney pieces, whereon brazen dogs
Revelled and roared the Christmas fires of logs.

In Virginia the atmosphere was more feudal and manorial than in any other part of the United States save the banks of the Hudson, and all the best architecture was in the country, for the population was practically divided into two classes—gentry and slaves—and without a middle class civic life is an impossibility.

The same also was true, though in a minor degree, of Maryland, which boasted few towns and less artistic worth, save in the matter of churches, in which St. Mary, Woolnoth, and St. Martin's-in-the-Fields, with belfries bursting through the roof, were minutely imitated.

The only roads were bridle paths, and the rivers alone were deemed safe for travel or conveyance. Every manor house, therefore, had its river front and private dock, and stately homes arose in quantity along the banks of the Severn, Potomac, and James.

Brick of dull red with trimmings of white stone or white wood were generally used, and the smithy, dairy, slave quarters, and other subordinate buildings were ranged with great regard for symmetry on either side of each house. These supplementary additions were attached by one-story corridors in Maryland, but generally detached in Virginia. Few of the old Virginian houses antedate 1715, though Shirley is said to have been built in 1700. All were solid, square, and stately, with statuary, Italian terraces, and shrubbery paths; but so orthodox were they in their imitation of English models that they sacrificed the luxury of verandas to academic purity, and, except for a broad porch, nothing architectural interrupted the light or softened the noonday glare, which beat upon the façades.

Grand halls with stone floors and panelled walls, ceilings with delicate traceries in plaster relief, and fine portraits by Godfrey Kneller and (in one or two instances) by Vandyke adorned the interiors. Breadth, simplicity, symmetry, and elegance characterized all in a manner very satisfactory and infinitely precious when compared with the turgid interiors of to-day.

Westover, Shirley, Brandon, Berkeley, and Carter's Grove were the most important examples.

Westover was built in 1737 by the Byrds, and contained the finest gateway in the country. Young

Byrd was a gay spark, who cut something of a figure in London and at the court of France. His friend, Lord Peterboro, would fain have made "sweet Evelyn" (Byrd's sister) his lady had not old Colonel Byrd opposed the match on religious grounds, and hurried the girl across the seas to Westover, where, mewed up solitarily, she died (according to tradition) of a broken heart, but more probably of boredom, for life on the James was not the same as life at the court of St. James.

But though Westover was not gay socially, it was pleasing architecturally with its fine sweep of roof, symmetrical windows, and fluted pilasters, and, while containing all the style features enumerated above, was composed of "grand lines restrained in narrow compass like those of an old Greek coin."

Hardly less important was Shirley, named after the wife of Lord de Warre and daughter of Sir Thomas Shirley.

It was founded by Sir Thomas Dale, High Marshal of Virginia and successor of Lord de Warre, who, being a man of great force, set himself to rid the colony of its many dissipated idlers by setting them to work.

This resulted in a conspiracy of the malcontents, but the truculent old gentleman quickly quelled the insurrection by "pleasantly varied methods of hanging, shooting, and breaking on the wheel, while one of the more mendacious malefactors had a bodkin thrust through his tongue, after which he was left chained to a tree until he died."

Sir Thomas's house was more than his castle; it was the show place of the whole county. Here

could be seen one of the new roofs just invented by Monsieur Jean Hedouin Mansard, of Paris, a sky line like those of Sir John Vanbrugh, of London, pictures by Sir Godfrey Kneller and Peale, and, later, crayons from the hands of Ste.-Memin, the fashionable artist of 1789, a darling of the days of snuff, ankles, and epigrams.

The great darkly panelled entrance hall did not bisect the house from front to rear, as was the case with nearly every house in the country, but occupied the whole northwestern quarter of the building, and, by its imposing proportions, formed a suitable background for the *fêtes* and receptions of the chatelaines of Shirley. In other respects this fine old home resembled all the Southern manors, for, fortunately, the builders and amateur architects of the time knew too little to dare attempt originality, and in clinging to the rules and methods laid down in the books sinned only in stiffness and formality.

Hitherto little has been said concerning the ecclesiastical architecture of the colonies, which was simple to an extreme, for, aside from motives of economy, the stern creeds of the Puritans, Quakers, and other nonconformist faiths forbade taste to run riot in the house of God. Even Virginia, where the Church of England was established, showed little or no tendency toward elaboration in this direction, and the word *meeting-house* is a more appropriate term for the fanes of that province.

Virginia contains the oldest ecclesiastical edifice still standing in the Western Hemisphere—namely, St. Luke's, near Smithfield (Fig. 169), a building said to have been erected in 1632.

It consists of a broad brick parallelogram, punctured sparsely with windows and prefaced by a wide tower, simple, stately, and sturdy as a Norman keep.

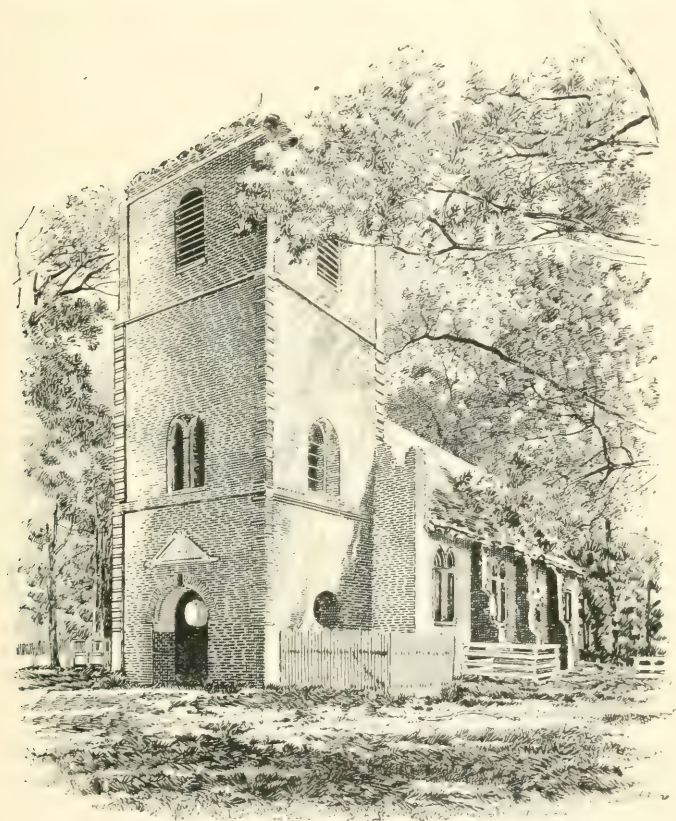


FIG. 169.—St. Luke's Church, near Smithfield, Virginia.

It contains no fanciful carving, gargoyles, or tracery of any account, but it is nevertheless superior to any

church that followed it for nearly a hundred years, possibly because of the interest taken in it by the Archbishop of Canterbury, who invested in the Virginia Company. Thus Old Swedes Church, built in 1700 at Philadelphia, resembles a jail surmounted by a pepper pot, and others display little more artistic insight.

However, Christ Church, Philadelphia, designed by Dr. John Kearsly, an amateur, claims a certain archæological interest as regards its interior, for here one sees the differentiation of the colonial and Renaissance styles, due to the reproduction of stone detail in the more maniable material of wood.

Other colonial churches of the eighteenth century are St. Michael's and St. Philip's, at Charleston, the Church of Goose Creek, the so-called Cathedral of St. Augustine, and St. Paul's, in New York. (Fig. 170).

In the year 1762 Stuart and Revett's *Antiquities of Athens* was published, and a revival of Greek forms swept over England, and in due time reached the colonies as well. "There being no quarantine to protect us against the invasion" (as Mr. Van Brunt expresses it), banks, town halls, homes, and churches were all converted into Greek temples.

Unfortunately, it was not Greek principles which were utilized, but Greek forms that were reproduced, until every cupola became a "choragic monument of Lysicrates" or "Temple of the Winds," and every Methodist meeting-house a *replica* of the Parthenon in whitewashed wood. This was especially unfortunate in its effect on the Southwest, where the *adobe* or rubble mission houses of the Spaniards, with their arcaded cloisters and belfries, had piously preserved

their Iberian prototypes, and in Mexico, had eventually begotten a divergent style of some originality.

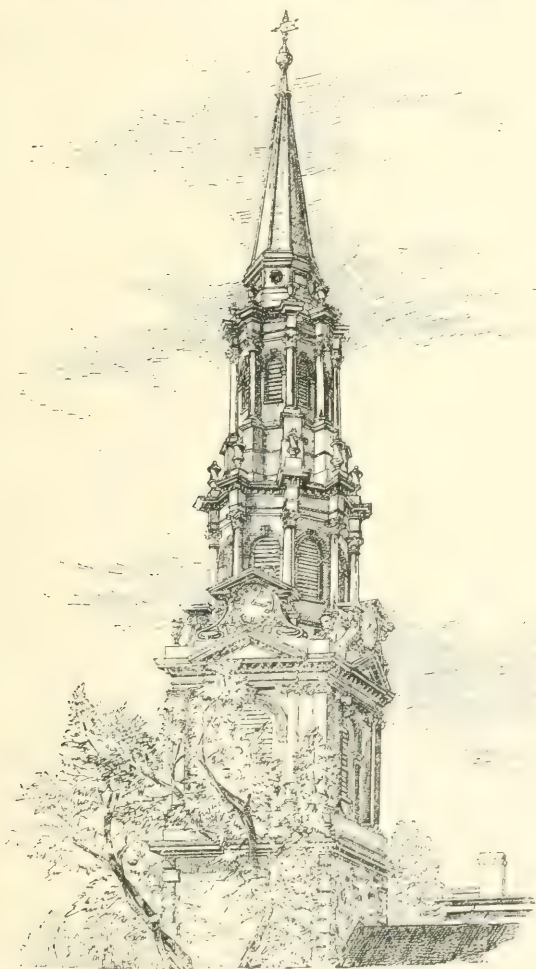


FIG. 170.—Spire of St. Paul's Church, New York.

A similar future might have been predicted of the old Creole houses on the lower Mississippi, but fashion was too strong; and here, as elsewhere, servile copies of misapprehended Greek models cut off all hope of the natural evolution of a national style.

But the common-sense spirit of the American mind soon revolted against using temples for clubs or bank buildings, especially when it was discovered that archæological truth would not permit the use of windows; and in the course of twelve or fifteen years the Greek revival gave place to another.

It is only fair to state, however, that the mouldings and ornaments of Greece were copied out of the books with scrupulous exactitude as regards form, and though the whole style seemed cold and inappropriate in the North, it was singularly effective when chiselled out of stone or marble in the South.

Meanwhile the election of Thomas Jefferson to the presidency had given him the opportunity to carry out a long, cherished project, namely, that of a grand national capitolium at Washington, and to him is due the suggestion, the sympathetic superintendence, and final accomplishment of the scheme, though not its architectural design.

The drawing for the central portion of the present great edifice was presented in a competition by Dr. William Thornton, an English resident and amateur of art, who from his combined capacities has been likened to the famous Dr. Perrault, of France, but his design had to be developed, corrected, and redrawn in practical form, and this fell to the lot of Mr. B. H. Latrobe.

After the burning, in 1817, Latrobe was succeeded

in the work of reconstruction by Charles Bulfinch, a man of great taste and cultivation, and architect of the statehouses of Massachusetts and Maine ; while Thomas Walter, second president of "the Institute," added the wings, built the dome, and practically completed the whole.

The great iron bubble forming the climax is the finest example of its kind in America and second only to the domes of St. Peter's and St. Paul's, but the fact that it is supported on iron girders detracts from the constructive interest which usually attaches to edifices of this kind.

Up to this time architecture had been plain and formal, yet nothing obviously odd had occurred ; but the "Gothic revival which followed the Greek deprived unskilful men of the safeguard of definite rules, and primarily gave nothing but sentiment and enthusiasm in their place ; wherefore confusion and anarchy followed," and the picturesque, the playful, and the grotesque were sought at the expense of all severity and good taste.

It began in Europe during the great period of romance which followed Sir Walter Scott and the mediævalist painters, and was greatly due to the persistent preaching or persuasive rhetoric of Ruskin, Pugin, Rickman, and Gilbert Scott. Not Gothic principles, but Gothic forms were revived—that is, in America—for it was claimed that those principles could only be adjusted by means of mediæval forms, and the jig saw and planing mill multiplied temptation. A man named Vaux covered the country with cheap imitations of Gothic forms in wood, and wretched books by incapable authors fell into the

still more incapable hands of masons and carpenters, who were practically the only architects. As a contributor to *The Architect* expressed it, "a large part could not build, another could not draw, and only a small part could design. The public considered the first of these faults worse than the others, and naturally inclined toward the practical man, whose work did not make them uncomfortable, though it might be bad architecture;" and hence the profession sank to the lowest point of invertebrate inefficiency.

An important phase arose under the Gothic revival which should not be overlooked, namely, *ethics in art*. Thus an arch flanked by two columns was called "an architectural lie," for either the arch or the columns support what is above, and this conscientious self-examination of the artist was often carried to a morbid extreme.

But in the end it did good. For though a direct result was the "moral furniture" of Mr. Eastlake, in which it was deemed wicked to conceal a mortice and tenon and excluded all curved lines as abnormal when the graining of the wood was straight, yet, on the other hand, it pointed out to classic architects the inutility and bad taste of embroidering façades with orders simply for ornamental reasons.

It was a long time, however, before either school would consent to learn anything from the other, and prejudice increased at such a rate that forty years ago no two architects holding opposite opinions on the subject of Gothic or Classic could meet without quarreling, and the so-called "*Battle of the Styles*" was waged with vigorous energy. But in 1857

Richard Upjohn and a few others perceived how hopeless it would be for architects to learn anything through attacking one another, and a society was formed for purposes of arbitration and patient disputation, which in 1866 gestated into the American Institute of Architects.

Thanks to this coming together, foreign travel, and study at the École des Beaux-Arts, architecture slowly awoke, and eventually reached its American climax and highest expression in the World's Fair of 1893.

To Upjohn, therefore, America owes a debt of gratitude, not so much for his monuments (though Trinity Church and St. Thomas's at New York and the Cathedral at Bangor are all archæologically correct), but for his *concentrative architectural opinion*, which performed a service similar to the amalgamation of the schools of Dijon and Tours during the French Renaissance or the art guilds of Mediæval times.

It must not be imagined, however, that advantageous results were immediate; for the Queen Anne revival or bric-a-brac style, which had begun under Norman Shaw in England, found distorted echo also in America, and contractors continued to erect miles of brown-stone abominations hastily hideous in design and disgraceful as representations of any reputable style. Besides a reign of caprice and general eclecticism held sway even among the better architects; for being suddenly brought face to face through travel and literature with so many foreign styles, it was as though a tribe of savages had suddenly discovered a theatrical wardrobe, and each masqueraded

in the manner which pleased him best. But among all the poor imitators and adaptors which thronged the early part of the second half of the nineteenth century, there was one who stood out clearly from the rest as an evangelist of something better and higher, namely, Henry Hobson Richardson.

Richardson was a graduate of Harvard and of the *École des Beaux-Arts*, and by travel and study had thoroughly saturated himself with the spirit of the Romanesque architecture of Auvergne, while Normandy supplied his inspirations for detail. The half-savage strength of this style, tinged slightly and delicately, as it was, with the refinement and luxury handed down from the late Roman Empire, seemed to offer great possibilities, while the picturesque quality of its distribution appealed to the romanticism which still hovered over the grave of the Gothic revival. Richardson began his Romanesque revival in Trinity Church, Boston, a building which is held by many to be his masterpiece.

Here may be seen all the qualities enumerated above, but in their simplest and most unostentatious form. True, the central climax is frankly reminiscent of the middle tower of Salamanca Cathedral, but the sobriety and dignity of treatment therein gives it all the rights of individuality.

The only fault in the whole building from a hypercritical point of view is the deficiency of base and the use of an "ungroupable" corner tower. Internally here, as well as elsewhere, it was Richardson's ambition (according to Prof. Kerr) "to put the work into strong naked health and honesty rather than into any dainty and attenuated attire."

Other Richardsonian masterpieces are the Winn Memorial Library, a design of much playfulness and imagination; the Pittsburg jail, with its awesome

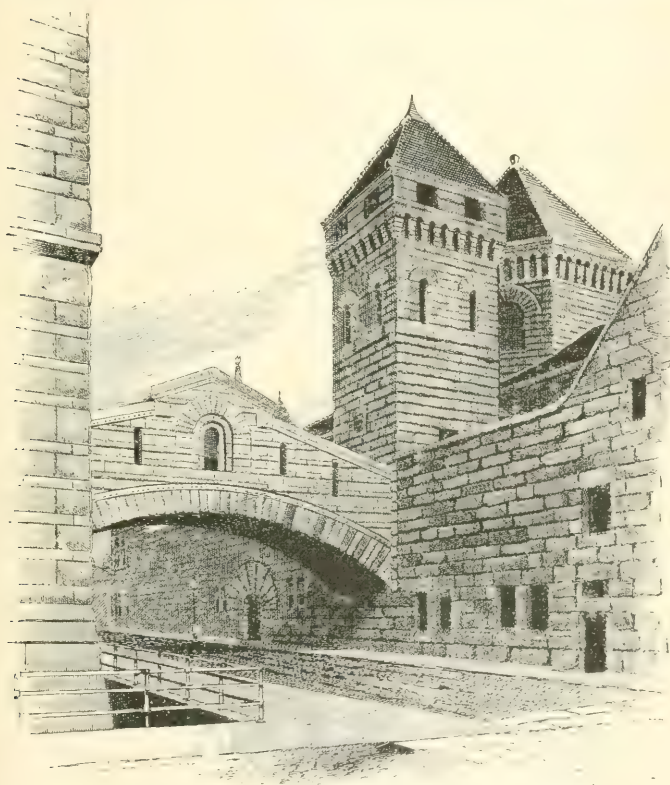


FIG. 171.—Jail at Pittsburg, Pennsylvania.

grandeur (Fig. 171); Mr. Glessner's picturesque palace at Chicago; the Law School at Harvard; Hubert Herkomer's house in England; and a large number

of small libraries, having windows set jewellike in a matrix of rock or rock-cut stone, producing an effect of genuine originality.

Breadth, unity, and simplicity were Richardson's strongest characteristics, but unfortunately his pupils never outstripped their master in his line or carried on his work of evolution. Hence, though Richardson's influence is still felt in almost every large city of the United States, he died in 1886 a unique and isolated figure—a man who preferred principles to conventions, and who by this preference very nearly produced what might be termed an original style, and in any case one of great charm, vigour, and masculinity.

Another personality that has stamped itself strongly on American architecture is that of the late Mr. R. M. Hunt.

Richard Morris Hunt was born in 1827; entered the *atelier* of Darier in Geneva at seventeen, that of Hector Lefuel in Paris at eighteen, and pursued his studies at the École des Beaux-Arts for nine successive years. During these years Lefuel was appointed by Napoleon III to complete the northern gallery of the Louvre, the most important feature of which was to be a central pavilion.

For the sake of practice Lefuel allowed his pupils to make designs for this pavilion, hoping probably to receive some stray inspiration here and there which might be converted to utility. But the design of Hunt was so complete, and in such exquisite taste, that the master concluded to erect it just as it was, with but slight alteration, and appointed his young apprentice *Inspecteur des Travaux*.

•

Hence to R. M. Hunt do the French owe the Pavillon de la Bibliothèque opposite the Palais-Royal.

In 1855 he began his American professional career, and continued it without interruption for forty years. His early work was influenced by the Neo-Grec movement so popular in France during his pupilage; but after some ten years he allowed his genius to express itself in various consistent forms of Renaissance, Gothic, Byzantine, and even Moorish architecture, according to the exigencies of the problem presented. His greatest good to this country was in "expanding the *bourgeois* buildings of the millionaires of 1855 into the princely palaces of 1895," and in proving that nearly all styles of architecture may be beautifully handled so long as we employ their purest principles without copying their individual forms.

The house, or *city chateau*, of Mr. W. K. Vanderbilt is generally considered the most beautiful of Mr. Hunt's New York designs. That its situation is inappropriate goes without saying, for the mind instinctively recalls the spacious parks surrounding cliff-crested Chaumont and Amboise or water-rimmed Chenonceau and Azai-le-Rideau, but the situation does not affect the balance and completeness of the design, and even the situation has its precedent in the house of Jacques Cœur, at Bourges, which gives directly on the public street.

It is customary to speak of this house as belonging to the style of Francis I; but there are many details which might well belong to the reigns of Louis XII, Charles VIII, or even earlier, and thus it acquires the picturesqueness of all transitional styles

and escapes the rigid formalism which results when an attempt is made to imitate by rule and precept what has grown and developed naturally through inspiration.

The principal features to be noticed are the compact and successful composition of the masses, the large smooth wall spaces left to enhance the richness of the carving, the sunken turret of the façade, the picturesqueness of the sky line, the pilasters veiled with delicate traceries like those of the Chateau de Gaillon, and, above all, the Genoese delicacy of the chiselled foliage throughout, a thing lacking in the Louis XII palace at the corner of Sixty-first Street, sadly deficient in St. Patrick's Cathedral, and generally wanting in all the ornamented buildings of this country.

In the Administration Building of the World's Fair Mr. Hunt won the plaudits of Europe by handling a difficult problem in an academic yet unconventional spirit. Unfortunately, the corner masses were too detached when viewed from certain points of view, but above the first cornice this building needs no intercessor, and the simple treatment of the top of the dome, without the conventional woman making operative gestures, was most refreshing to the architectural *gourmets*.

Other well-known buildings of Mr. Hunt are The Breakers, Ochre Point, and Marble House, at Newport; Biltmore, near Asheville; the Lenox Library and Tribune building, in New York; and the residences of Elbridge Gerry and J. J. Astor, in the same city.

Before his death he was made chevalier of the

Legion of Honour, associate of the Institute of France, academician of St. Luke's, Rome, and, in addition to

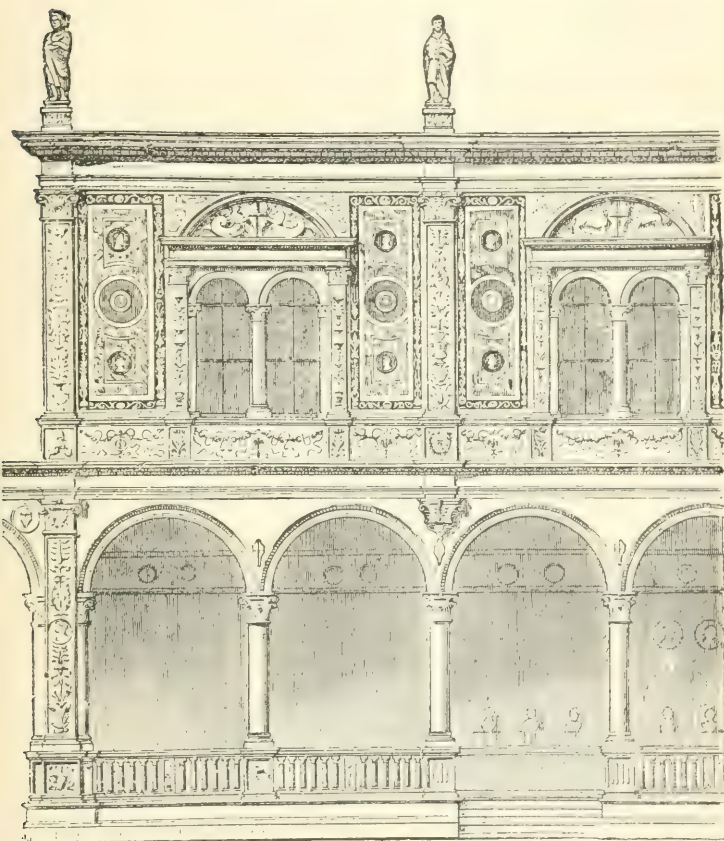


FIG. 172.—The Consiglio at Verona.

the degree of LL. D. and countless other honours, received the gold medal of the Royal Institute of British Architects.

The firm of McKim, Mead & White have done much toward architectural education in this country by their adaptations of some of the best buildings in Europe to American uses.

Thus the multiplication of the Consiglio at Verona in the Herald building (Fig. 172), the adaptation of the Villa Medici in the New York State Building at Chicago, of the Giralda Tower in the Madison Square Garden, and of the Bibliothèque Ste-Genevieve in the Boston Library—all educate the taste of the masses, and even the classes, for things beautiful.

True, these adaptations of individual buildings may not be the highest form of art, like the evolution of the Corinthian capital by Callicrates or the development of the pendentive system by Anthemios, of Tralles; but they educate, beautify, and introduce an academic feeling much needed in the present state of our building art, in which the reaction from the East-lake ethical doctrines has often resulted in a scepticism and libertinage euphemistically termed eclecticism; while the original Veronese façade of the Century Club (Fig. 173) and the purity of the Naugatuck Library (Fig. 174) show the capabilities of their creators both for invention and purity respectively when these are deemed necessary.

The self-restraint shown in the Naugatuck Library is especially commendable, as the most serious fault of this firm has been a tendency toward overelaboration or overrustication, as in the Hotel Imperial and Warren Building in New York.

Terra-cotta moulds and a vivid imagination are dangerous tools for an architect to play with, and the cheapness of moulded materials multiplies tempta-

tion. But gingerbread work can never take the place of carving, and it is pleasant to note that this

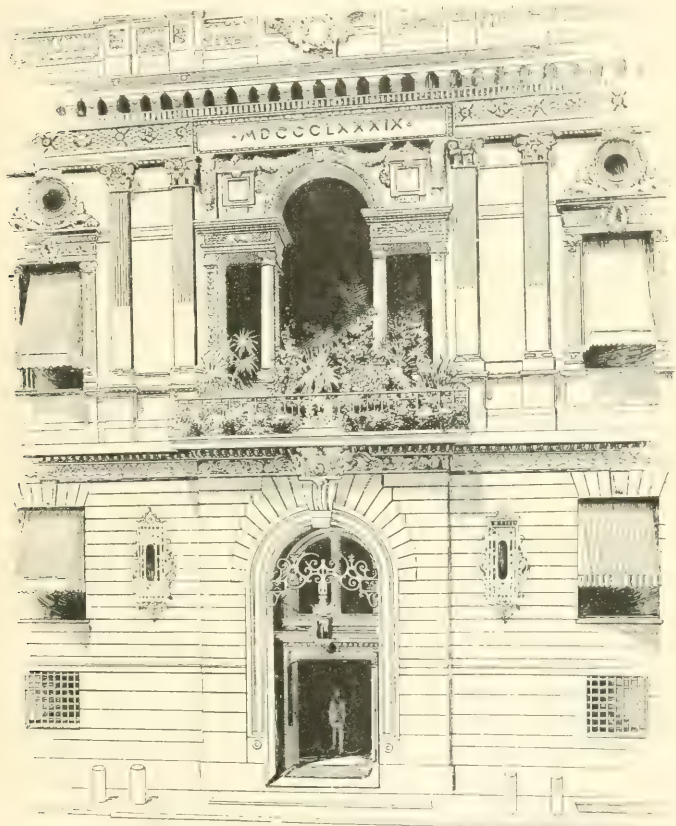


FIG. 173.—Detail of the Century Club, New York city.

seems also to be the eventual conclusion of this successful triumvirate, for the self-control and good taste

displayed in the Columbia College Library is more than reassuring, and all their more recent work argues well for the future of our art.

Many other architects have influenced and are still influencing American architecture for good, among whom may be mentioned Van Brunt, Kendall, Carrère & Hastings, Sturgis, Peabody & Stearns,

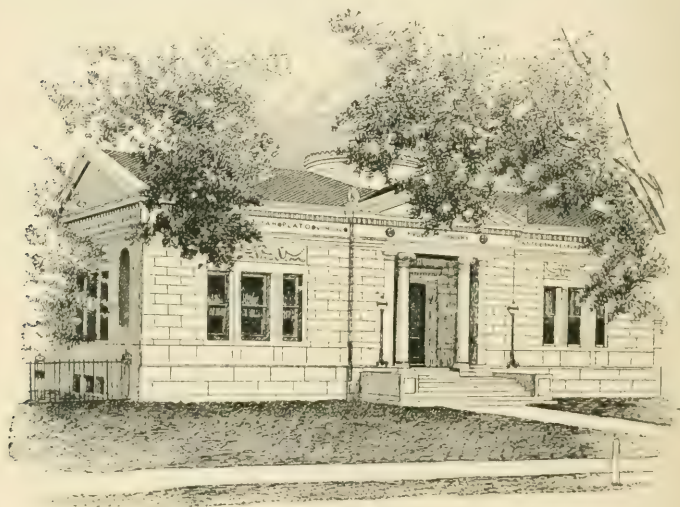


FIG. 174.—Library at Naugatuck, Connecticut.

Jenney, Hardenbergh, Post, Price, Haight, Heins & Lafarge, Renwick, Lord, Potter, Atwood, and a host of others; but especially are we indebted to Prof. William R. Ware, who has probably done more than any other single individual in this country toward educating and refining architectural taste.

The so-called "vertical architecture" or "high building" in America belongs more properly to the

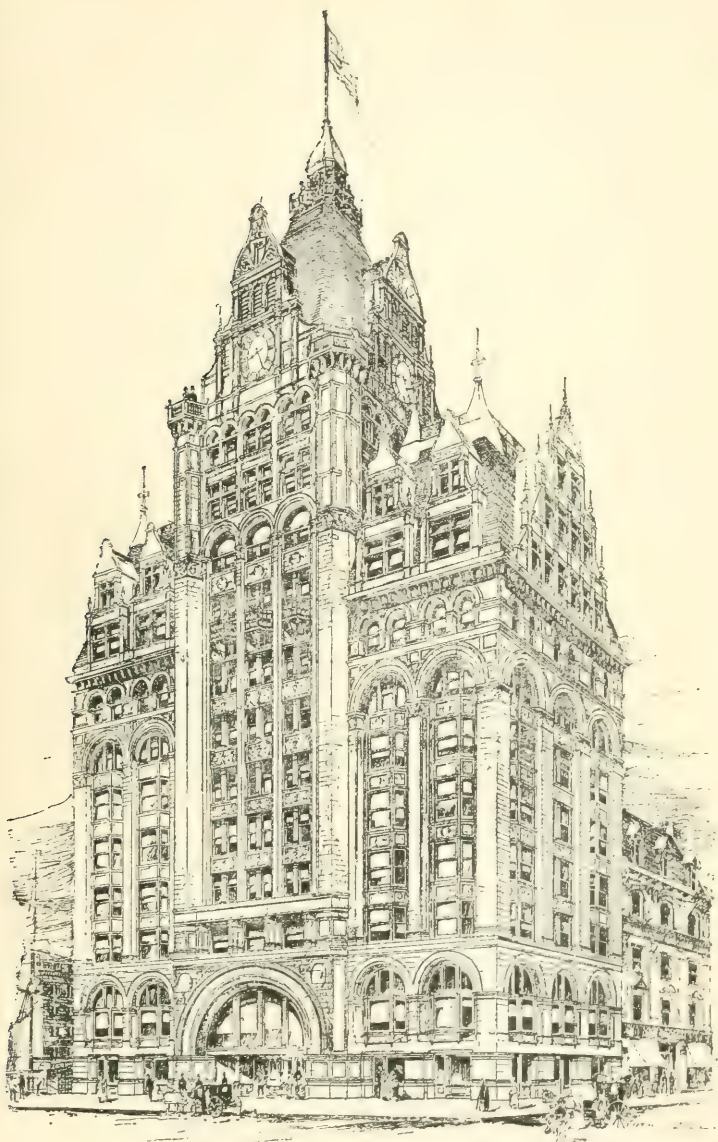


PLATE LX.—Office building in Milwaukee.

province of engineering than architecture; but it would be a piece of affectation entirely to ignore so salient a feature of civic life, even in the constricted limits of this sketch. The "high building" is not beautiful to look upon; but it is a commercial necessity, and the quick elevator, or lift, which brings the twentieth story down to the third has made it a possibility.

When a whole block is devoted to such a building and the design is treated pyramidally (Plate LX) or as an isolated tower, the result is often stately and imposing; but the attenuated monstrosities which may be seen to-day on Union Square, New York, are a disgrace to architectural art.

The method of building, however, is the same in all cases: a cage or skeleton of steel is erected by which the wall of each floor is supported separately on its own frame; hence these walls, having only their own weight to carry, are made light and thin for economy of space, while the mason can begin filling in the brick and stone at the top if needful, instead of building from the bottom upward as heretofore (Fig. 175).

American architecture reached its climax in the World's Fair, as already stated; yet so much has been said and written concerning its buildings, and well said and well written by specialists, that it would be presumptuous to discuss the matter analytically within the present limits. But it may not be superfluous to quote the President of the Royal Institute of British Architects who, in a subsequent speech, remarked that "the Court of Honour was the grand-

est thing architecturally that the world had ever seen since the days of Pericles."

Concerning individual buildings, however, it seems to be generally conceded that the Fine Arts

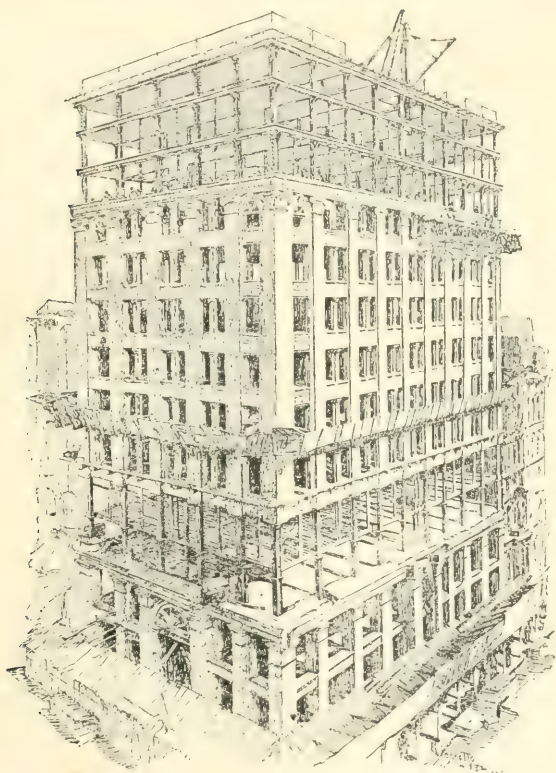


FIG. 175.—New York Life Insurance building, Chicago.

Building was the most beautiful thing ever erected in this country as regards purity and distribution; while the gem for modesty and simplicity among the

more subordinate works bore the prosaic and uninspiring title of the Merchant Tailors' Building.

One of the most potential factors of success in the World's Fair was the general agreement that the main cornice of no building should exceed a certain height, by which means the beautiful "White City" became a homogeneous whole and an education in artistic self-restraint. For renunciation has its technique as well as imagination in art, and self-control is the secret of good taste.

The World's Fair has faded away like a beautiful thought dreamed softly in the silver silence of the night; but its influence is still keen and abundant—a living vibrant force. Whether that force will show art in some new relation to our age or, in a spirit of illiberal luxury, merely elaborate what we already know, is one of those mysteries which none can solve; and we can only look to the future, of which we know so little yet hope so much, and patiently await the morning of fulfilment.

THE END.

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 ARCADE, BLIND. A series of arches employed for decorative purposes, which are set right against the wall of a building.
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- CRENELLED. Embattled.
- CRESTING. A pierced leaden ornament placed vertically on the ridge of a roof.
- CROCKET. A projecting ornament terminating in a curve or roll in the form of foliage or flowers.
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- ESONARTHEX, defined, 226.
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- EXONARTHEX, defined, 226.
- FAÇADE. The outside surface of a building, especially the principal front.
- FINIAL. A sculptured ornament which represents a leaf or a flower, and which is employed as a termination to gables, pinnacles, and canopies.
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- GARGOYLES. The spouts placed on a Gothic building to carry the rain water from the roof far from the walls. They most frequently represented fantastic creatures.
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- LOGGIA. A gallery or portico projecting from a building and sometimes decorated with paintings.
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- MODILLION. A bracket placed under a cornice or balcony.
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- MULLION. A stone compartment which divides the surface of a window.
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- MUNA-OS.E, defined, 91.
- MUTULE. A modillion of considerable size peculiar to the Doric order.
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- NAVE. That part of a Gothic church which extends from the choir to the western door.
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 PARAPET. A wall which runs along the edge of a balcony, a platform, or a bridge, or protects the top of a house or a church.
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 PERISTYLE. A colonnade running round the interior of a courtyard.
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 PILASTER. A square support terminated by a base and a capital.
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 PYLON. A mass of masonry in the form of a truncated pyramid with a door in the middle, terminated in a platform.
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 REPLICA. An original work of art of the same dimensions as an earlier production by the same artist, and representing identically the same subject as that treated in the former work.
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 SPANDREL. The triangular space between the outer surface of an arch and the rectangular moulding which surmounts the arch.
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